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SPECIAL ARTICLES.

THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-THIRD ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, JUNE 10-13, 1902.

BY JOHN ALLAN WYETH, M.D., LL.D.,
OF NEW YORK.

SINCE the session held at St. Paul a year ago, a former president of this Association, paying the last great debt to Nature, has passed

"To where beyond these voices there is peace."

Full of years and beyond the limit allotted by the Psalmist, Professor Edward Mott Moore, born in Rahway, N. J., July 15, 1814, died in Rochester, N. Y., March 3, 1902. He was one of the founders of the New York State Medical Association, a consistent and loyal friend of our national body and of an organized medical profession. Although his achievements in science were of a high order, his life was not circumscribed within the narrow limits of professional work. He was not only a skilful surgeon, bold and original, but, more than this, he was a citizen of the highest type. The welfare of his neighbors, of his adopted city, State and the Nation were his. May his noble example be emulated, for it is just as much our duty to be true to the obligations of citizenship as to our profession.

Before dealing with the more urgent matters of this meeting, your attention is called to the Fourteenth International Congress of Medicine which is to be held at Madrid from April 23 to 30, 1903.

As your presiding officer I had the honor to receive an appointment from the Secretary of State as a delegate to represent this Association at the Congress, and was requested by him to appoint five additional delegates from this body. In conforming to this request the following gentlemen have accepted commissions and have received certificates from the State Department to the Congress: Dr. Nicholas Senn of Illinois; Dr. Maurice H. Richardson of Massachusetts; Dr. George Crile of Ohio; Dr. Richard Douglas of Tennessee, and Dr. Edward B. Dench of New York.

It should be the duty and pride of the separate State associations to send at least one delegate to this important meeting, and in doing this to correspond with Dr. Angel Fernandez-Caro, Secretary-General, Fourteenth International Congress of Medicine, Madrid, Spain.

This session marks an era in the history of the American Medical Association, for we meet under changed conditions, and in this our trial year, while we are adjusting ourselves to the new order, we confidently ask and expect to receive not only the consideration and forbearance, but the generous help which should be accorded to this experiment in government by which we earnestly hope to avoid the embarrassments and failures that under the old régime characterized the meetings of a body so large and unwieldy as the general session.

These changes involve not only the government of the Association proper, but also a changed relationship of the State association to the national body, as well as the relationship of the county to the State organization. Under the old organization our business was transacted by delegates from State, district and local affiliated societies in the proportion of one delegate for each ten members, while now only affiliated State organizations have the right to send delegates, and these are entitled to only one delegate for each five hundred active members, or fraction of this number. These form the House of Delegates, which is further reënforced by two members from each of the scientific sections of the Association, and one each from the Army, the Navy and the Marine-Hospital Service. Under the old régime the State associations bore the same relationship to the national body as did the city, county and district organizations. Now, only the State associations are represented, and they create the legislative body of the American Medical Association. In other words, the House of Delegates is a federation of all the State associations.

The reorganization at St. Paul, having taken away from the county organization its right to send delegates, also deprived the city, district branches and other minor associations of the same privilege, requiring membership in the county society when such exists as a prerequisite to membership in the State and the American Medical Association. This ruling dropped, at least temporarily, from the rolls of the Association a considerable number of physicians who had long been on the roster from State or local bodies which, by the laws then existing, were in affiliation with the National Association. While this action may have seemed unnecessary and unjust to these members (among whom were many of the most loyal and faithful supporters of the national body), for the common good they should yield to the opinion of the majority, since calm reflection must convince any reasonable mind that one of the wisest steps the Association ever took was when it made the county medical organizations the basis of membership in the national body. There will hereafter be excluded from membership that fortunately small, but none the less existing, group of unworthy members of our profession who, on account of the clumsy rules

which formerly prevailed, obtained a place on the roster of the American Medical Association.

To the date of the reorganization in June, 1901, the roster of this Association was so inaccurate and unsatisfactory that the secretary and president-elect undertook the difficult task of obtaining a correct list of members. While one might infer that each organized State and territorial association could, from its records, furnish at short notice the names of all eligible to membership in the American Medical Association, in only a very small proportion of these subordinate bodies was a reliable list available. It then became necessary to direct a circular letter, State by State, to every name on the roster then existing, asking for the necessary information. Since, for final confirmation, these names must be referred back to the subordinate organizations in which membership is claimed, it will be seen that some time must elapse before the completion of a perfectly reliable list. The lack of business-like methods with which our profession is charged is in a manner sustained by this admission, and it emphasizes the necessity for a thorough reorganization of all the societies in affiliation with the national body, upon practically a uniform plan.

Scarcely second in importance to a uniform scheme of reorganization is that of a uniform standard of requirements for the practice of medicine in the various States. It is of vital interest to the welfare of the profession that the question of reciprocity or interstate comity should be settled so that, without any sacrifice of the very highest requirements, a physician in practice in one State, having gone before a competent board, upon change of residence might be permitted to practise without being subject to a second State examination in the place of his adoption. The House of Delegates will, without doubt, act upon this matter at this session.

Referring to the subdivisions of the scientific work of the Association, Article V. of the Constitution empowers the House of Delegates "to authorize new sections which may from time to time be organized, as the necessity for their existence arises." With increasing membership and the consequent larger attendance, it may be imperative in the future to create new sections, but this should be done only after careful consideration, and not until it is demonstrated that the material of high scientific value offered to the twelve sections now existing is more than can be utilized in the time allotted for the meetings.

The By-Laws require every member to register in one of the sections, and it would be well to limit each reader to a single paper before the section chosen. The Association should insist that the officers of sections exercise a most rigid scrutiny of the papers referred to them. If we are to achieve our high purpose, if we wish to attract to our organization the great bulk of the better element of the medical profession, we must present through our sections papers which demonstrate not only the high scientific attainment of the author, but the undoubted value of the material presented. We are judged by our works, and if, at our meetings, and in the publication of our papers in the *Journal of the American Medical Association* which carries them to all parts of the earth, any unworthy material find a place, it can but reflect discredit upon the Association.

Article VI. of the new Constitution says: "The House of Delegates shall have authority to provide for and to create such branch organizations as may be deemed essential to the promotion of the welfare of the medical profession."

For the present I would not advise the establishment of these subdivisions, but ultimately it may be found necessary to divide the States and Territories according to population and geographical position into district branches where meetings may be held at the convenience of the States represented, and without interference with the annual session of the National Association.

Let us hope that the various tri-State societies and the sectional organizations, such as the Southern Surgical and Gynecological Association, and the equally successful Mississippi Valley Medical Association, and others of like character, attracted by the high and unselfish aims of this organization, may appreciate the vital necessity of a united profession and vote themselves into district branches of the American Medical Association. Truly, in such a union there would be strength so potent and influence so far reaching that we could safeguard, without doubt, the material interests of the profession, elevate still higher the standard of medical education, secure the enactment and enforcement of just and rigid medical laws, enlighten and direct public opinion in regard to the broad problems of State medicine, and demonstrate to the world the practical accomplishment of our science.

Article VII. of the new Constitution, which deals with "Sessions and Meetings," refers the place and time for holding each annual session to the House of Delegates. They are also, under Article IX., empowered to appropriate funds for defraying the expenses of the annual meeting, as well as for enabling the standing committees to fulfil their respective duties.

I would recommend to the consideration of the Association the propriety of selecting, in each of the geographical subdivisions of the United States in which the sessions are successively held, some suitable location which has been found to be well adapted to the work of the organization, and to which we could return when the meeting is again to be held in that section of the country. As a scientific body intent upon fostering the growth and diffusion of medical knowledge, it is of vital importance to avoid in the election of our place of meeting everything that could detract from the closest attention to the scientific program. The smaller cities with ample hotel accommodations and halls conveniently located have always yielded a larger attendance before the sections, and consequently a greater benefit to our members than the cities of larger size with their mul-

titude of distractions. Moreover, it seems scarcely in accord with the dignity of this great body to require through its committee of arangements that the physicians of the State and place selected for the convention should be held responsible for the expenses of that meeting. Every suggestion of commercialism should be avoided, and this prosperous organization should assume the entire responsibility and management of these annual sessions.

One of the most important duties imposed upon the House of Delegates is the selection of those who conduct its business affairs. In the past, the Association has shown a keen discernment in securing for its trustees and standing committees men, not only of executive ability, but held in high esteem as representatives of a profession which, according to the Code of Ethics, "should be temperate in all things, and which requires greater purity of character and a higher standard of moral excellence than any other calling."

You will in the regular order of business hear the reports of your five standing committees, and I am called upon to speak of but one, viz., the Committee on Medical Legislation which the By-Laws adopted in June of 1901 direct to be appointed by the president, and to consist of one delegate from each State. In accordance with this requirement I mailed to the president of each State and Territorial organization in affiliation with the American Medical Association a letter asking him to nominate one member for this committee. To all replies to this letter the name of the delegate was sent to the chairman of the National Committee on Medical Legislation, Dr. H. L. E. Johnson, Washington, D. C. It will be remembered that at the session in St. Paul in 1901 the Association ruled that the National Committee on Medical Legislation, consisting of Dr. H. L. E. Johnson, Washington City, Dr. William H. Welch, Baltimore, and Dr. W. L. Rodman, Philadelphia, should be continued until the meeting in June, 1902, and should have the same power to act in the interest of the Association that they had previously enjoyed. All the legislative affairs of the Association I have referred to this committee at Washington, and have authorized them to call the full Committee on Medical Legislation for consultation, advice or aid whenever their services might be required.

In his message to Congress, December, 1901, President Roosevelt recommended the establishment of a Department of Commerce and Industries. In its passage through the Senate the name was changed to that of Commerce and Labor. Before the National Legislature at the same time was a bill known as the Perkins-Hepburn Bill to increase the efficiency and to change the name of the United States Marine Hospital Service to that of the United States Health Service, transferring this from the Treasury to the new department.

The American Medical Association has on several occasions expressed its desire for the establishment of a Department of Public Health, either as a separate department of the Government, or as one of the important bureaus of a department. Probably on account of a lack of thorough organization and coöperation, it has not been able to obtain this important recognition for the medical profession. In view of these repeated failures it would seem advantageous to the scheme of establishing ultimately a Department of Public Health that the Perkins Bill should become a law, because the United States Marine Hospital Service could then with more propriety be removed from the new Department of Commerce and Labor to a separate and independent department. This department should be in charge of a medical officer to direct our foreign and insular quarantine, interstate quarantine, the medical supervision of epidemics, and in fact all matters pertaining to the general health of any group of States or of the entire country.

The work of this officer and bureau can only be carried out with success by the earnest cooperation of the health officers of the various localities and States, and of the advisory board for the hygienic laboratory provided for in the Perkins-Hepburn Bill, for the national and local authorities acting in harmony would be better able to prevent the importation of disease, and to stamp out epidemics which may occur despite the greatest vigilance, and this with the minimum disturbance of the resident public, and of the commercial interests of more remote sections.

As the representative organization of the medical profession of the United States, it is our duty to coöperate with the medical corps of the Army in the effort to procure legislation which will not only uphold the rights and dignity of the medical officers in the public service, but will give better protection to the health and lives of our troops.

The status of the Medical Department of the United States Army is fairly stated in a circular issued by the medical officers stationed in the Philippines, in which they claim that the present condition of affairs "is regarded as a menace to the efficiency of the medical department, as it is felt to be unfair and unjust." In no other staff department is promotion so slow as in the medical department. It is graded for rank, promotion and pay below every other staff department of the Army, and, with the exception of second lieutenant, is graded below the line. A medical officer, under the provisions of the present law, to obtain a colonelcy must pass through three times as many files as an officer of the Quartermaster's, Subsistence or Pay Department; through more than twice as many files as an officer of the Engineers' or Ordnance Department, and more than one and one-half times as many as an officer of the Signal Corps. Officers of the line, having attained the rank of major, have to pass through but four files to obtain the rank of colonel, while the medical officers have to pass through nine files. All these facts are fully ap-

preciated by the younger physicians of our country, and by the volunteer and contract medical officers, hundreds of whom are now serving with troops and are declining to become candidates for a position offering such an unpromising career and so little in the line of promotion and emolument.

The Secretary of War has been officially informed by the Surgeon-General that the number of available medical officers is being rapidly diminished, and he anticipates he will soon be unable to supply the demand for medical officers to replace those constantly returning from the Philippines, unless the prohibition placed by the Secretary of War upon the appointment of additional contract surgeons be removed. He says: "The service would no doubt be more attractive to well-educated physicians if the prospects for promotion were better, and I respectfully commend that Congress be asked at the present session to add to the medical corps of the Army two colonels, six lieutenant-colonels and twenty-five majors. This would give thirty-three additional vacancies and would furnish an incentive to volunteer medical officers and contract surgeons now in service to seek admission to the regular army. I would also recommend that the age limit for volunteer surgeons and contract surgeons who have rendered satisfactory service for two years or more be raised to thirty-six years."

No one who has carefully studied the subject can but conclude that under the statutes now in force many lives have been sacrificed and much suffering has resulted from lack of thorough cooperation between the officer in command and his chief surgeon, and without doubt it would be to the interest of the service if medical officers were always consulted with regard to the location of camps and military posts for the purpose of geting expert opinion upon sanitary questions.

In order to impress upon commanding officers the importance of military hygiene, and the greater necessity for this coöperation with the medical corps of the Army, the Surgeon-General has insisted that there should be established at the Military Academy at West Point a course of instruction on military hygiene.

It is the duty of this Association to lend its best efforts to the Surgeon-General, a former president of the American Medical Association, and one not only in the position to suggest the legislation which would best serve the interests of the Army, but one whom we know to be zealous of the interests, rights and dignity of the medical officers of the War Department.

The committee to whom was intrusted the question of vivisection has been diligent, and it would seem successful, in its efforts to prevent unwise and injurious restrictions upon this important method of research.

The wide dissemination of the contagion of smallpox in the United States within the last few years demands the most earnest attention of the medical profession. Such ignorance or indifference to the immunizing power of vaccination is a matter of surprise in an advanced stage of civilization and, while laws for compulsory vaccination would without doubt be to the best interests of the whole people, it seems so contrary to the spirit of our institutions as to be impolitic as well as impracticable. It falls upon us as physicians to labor unceasingly to impress upon the communities in which we reside the necessity and safety of this immunizing process.

We will be wise if, from time to time, we make a critical analysis of our past, realize exactly what we are doing, and upon this base such conduct as will assure to our successors a more satisfactory condition of our profession, and a higher achievement of this Association. Being human we are too apt to shut our eyes to unpleasant truths; to exaggerate the value and the importance of our own performances, and to think that what we have been taught to believe or what we wish to believe is right and unchangeable. Let us ask ourselves plainly: Is the medical profession of the United States what it should be? Has it won the influential position to which it should aspire? Has it gained the power to secure just and proper legislation? Has it lived up to its obligations, and has the American Medical Association, which claims to represent one hundred and twenty thousand regular practitioners of medicine in the United States, fulfilled its mission? How many of us after due reflection can consistently answer these questions other than by saying plainly and regretfully—No. And wherein lies our weakness? To say we are part of a young and scarcely organized country; that our profession is widely dispersed over vast regions so remote from each other that contact and coöperation are difficult, will not entirely satisfy the fairly critical mind. Such excuses might have been sufficient at an earlier date, but not now. To say that, despite these and other embarrassments, we of the United States have given to mankind the unequaled boon of ether anesthesia; that through the achievements of members of our profession and of this Association medical and surgical science has been greatly enriched; that great specialties recognized the world over have been developed; that operations bold and original have been established beyond controversy; and that by reason of these various contributions to the science and art of surgery and of medicine millions of lives have already been saved, together with the merciful mitigation of suffering which all this implies, may flatter our vanity, but it will not wholly satisfy us when in honest purpose we realize how great are our shortcomings.

It is a fact painful to acknowledge that of the three so-called professions, the ministry, law, and medicine, ours is accorded the inferior position, and we who day in and day out, in every home of the land, are close in the personal friendship of our patients, respected and loved as individuals, are incapable of wielding by organization and discipline the powerful influence of a united profession aiming at a high and honorable purpose. And what have been the results of this house divided

against itself? Witness the snail-like progress which marked the various steps in securing our laws for elevating the standard of requirements in medical education and for medical practice. Witness the opposition to our efforts in securing better sanitary regulations, and in the struggle to protect the public from the horde of uneducated or misguided persons who, under the guise of Christian science, osteopathy, and other schisms, insist upon being permitted to take charge of and treat human beings suffering from diseases without submitting themselves to the State examination required of us.

There are, in my opinion, two principal causes of this evident weakness of the profession. First: The insufficient methods of medical education which have prevailed for the greater part of the first century of our national existence. Second: The lack of organization.

The Code of this Association says: "Those admitted into our ranks should found their expectations of practice upon the extent of their qualifications." We stand committed as the champion of higher medical education and the elevation of the standard of requirements applicable not only to the entrance examination, but to a rigid examination before the degree is received, as well as by the State before the permission to practise is granted. To this rigid examination this Association, by its rules of conduct, demands another important essential. The highest order of learning, the greatest amount of skill may not make one an honor to our calling, for "there is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his patients and his profession."

The American Medical Association is the sponsor for organized medicine in the United States, and the failure to accomplish this end implies the failure of this Association. We must not fail, nor will we, unless we falter in carrying out the plan of reorganization in the liberal and progressive spirit which characterized the session of 1901. It is our plain duty to endeavor to bring about the adoption by the various constituent bodies of a practical uniform constitution and by-laws for each county, and for each State, modified only as the local conditions may require, and all governed by the same rules of conduct. These rules, as at present given in the Code of Ethics, adopted many years ago by this Association, should be also a subject of serious consideration at this time, for we can not claim consistency or be logical in argument until there is but one code for the national Association and for all of the State organizations represented in the national body. This, as you well know, does not now prevail. Some years ago there lived and labored among us for the good of mankind and the honor of the profession a man whose genius was of the highest order, and whose fame carried the name of American surgery throughout the civilized world. He was one of those fearless pioneers in science who found his place even on the frontier, clearing the way for those who were to follow. In 1876, at the meeting of the American Medical Association, in Philadelphia, Dr. J. Marion Sims, in his presidential address, referring to the Code of Ethics, says: "The time will come when your organic laws, like the Constitution of our country, will require modifications and amendments to suit a higher intelligence, a broader education and a greater destiny." In my opinion, the time has come when we can not absolve ourselves from the responsibility of doing away with the inconsistencies for which we may now be properly criticized.

Such have been the changes in the statutes of a majority of the States since the Code was adopted by the respected founders of this Association that we find it insisting upon conduct on the part of our members which is contrary to the laws of the States in which they reside. For instance, one section forbids a member of the regular profession to act upon a board of examiners which has to pass upon legal qualifications of persons not graduates of regular medical colleges, while in thirty-eight of the States represented here the civil statutes require these boards, which are composed in great part of members of the Association, to examine, pass upon and sign certificates or licenses to practise of homeopaths, eclectics, and other subdivisions of medical practice. In six of the States, including the District of Columbia, the law requires three separate examining boards. In Mississippi, North Carolina and South Carolina, the examining boards are entirely composed of regular physicians, and in one of these States (Mississippi), while none but regulars are allowed on the board, the law explicitly says that "distinction shall not be made between applicants because of the different systems or schools of practice that may be chosen." In almost all the States and Territories regular physicians are compelled by the laws of the State in which they reside to disobey the injunctions of this section of the Code of Ethics.

A modification of this and other sections of the Code must be a part of the liberal plan of reorganization which we have essayed.

In conclusion, I ask this Association to stand for more than the healing art. To labor for the alleviation of suffering and for the restoration of health is a noble vocation, but to teach our fellows how to avoid disaster is a prouder privilege and a higher duty. We should be teachers of men. How better can we protect the public from disease in all its various forms and insidious processes than by perfecting in every county and in every community an organization which shall be ever watchful and insistent upon obedience to the laws relating to the public health?

Jefferson Alumni Banquet.—The annual banquet of the Alumni Association of Jefferson Medical College was held Wednesday evening, May 28th, at the "Hotel Walton."

SUTURE OF HEART WOUNDS.[1]

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IN 1896 three operations for the suture of wounds of the heart muscle were done. Two are recorded as having been done in 1897. Four are credited to 1898. In 1899 the heart was sutured eleven times, in 1900 three times, and in 1901 nine times, three of this last set being done in this country. This year two operations have thus far been reported. This makes a total of thirty-four operations in the six years following the first attempt to treat, by a simple surgical procedure, an organ usually supposed to be particularly vulnerable, in fact, so vulnerable that any interference, even for surgical purposes, might be followed by immediately fatal results.

There is more than enough material here for our consideration at this time, and I beg you to follow me in the necessarily brief discussion which I offer you. In order to start with some knowledge of the results of these operations, before any discussion, in general or in detail, is attempted, a short review of them will be necessary.

Review of Cases.—As regards the manner of wounding, all these cases, except two, were due to punctured or incised wounds, the two exceptions being bullet wounds. The particular injury to the heart was inflicted on the ventricles thirty-two times, the left ventricle being implicated seventeen times and the right thirteen times. In two cases only were auricles opened, once the right and once the left, and there are three cases in which my information is incomplete. In most of the cases in which details are given the pleura is reported wounded, and usually there was a hemothorax, the collection representing, in large part, the overflow from the pericardium.

In the cases reported the heart was reached variously, depending on the location of the original wound in the skin and the choice of the operator, but either a flap of all of the tissues of the thoracic wall was turned up, or a resection of two or more ribs was practised. The particular detail is of no great moment provided that the heart is properly exposed. The special method of treating the heart wound is of interest, for it involves the choice of suture material for a novel situation, the time at which the suture is introduced and tied with reference to the heart beat, and the depth of the stitch in the heart muscle. In our cases three operators are recorded as having used catgut, Fontan of Paris, Marion, and Launay; in all other instances in which the suture material was specified silk was used, and in most cases the sutures were interrupted, though in a small number a continuous suture was practised. It is of interest to note that these operators particularly avoided including the endocardium in the suture. One of them definitely reports introducing and tying the suture during diastole.

As regards the closure of the wounds, the tissues involved in the flaps or incisions were, of course, replaced; in seven instances drainage of the pericardium and pleura was practised, and in four the pleura alone was drained. The other cases are said plainly to have been closed without drainage, or nothing is said of the matter at all.

Results.—Of the total number of these cases five died of hemorrhage on the operating-table, and ten died very soon afterward of the effects of hemorrhage or the shock of the operation; so that nearly half of the cases that survived the injury long enough to be subjected to operation died during or very shortly after that operation. The other group, nineteen in number, had various fortunes, but thirteen of them recovered and only six died. I think it is fair to stop a moment and consider these facts. Surely the fifteen who died of hemorrhage or shock with operation would probably have died of hemorrhage exactly the same without operation. No fatal traumatism is inflicted by exposing the heart; and stopping the hemorrhage from an incised or punctured wound in the ventricles is a simple matter when the heart is once exposed; indeed, pressure with the finger or a tampon will stop it temporarily. At all events the operation and suture did not add materially to the amount of blood lost and so can not be counted as having hastened the death from hemorrhage, and the average amount of shock I can not estimate. But I believe that it is fair to say that these patients had from the first, practically no chance to recover, and that, if this had been known, the operations need not have been done—but I say this with full appreciation of the fact that the inevitable fatality could not have been definitely predicated in any case. Of the other nineteen the comment is, plainly, that they had a chance to recover. In each of them the suture of the heart was a successful procedure; in not one instance was the fatal outcome due to a secondary hemorrhage. The six who died succumbed to the infection subsequent to the wound and operation. Of the thirteen who recovered four did so in spite of a concurrent infection. But the point is that of these thirty-four cases, fifteen had, really, but very slight expectation of benefit from the operation and died probably neither in spite of it nor because of it—nineteen had expectation of recovery from operation, and in thirteen that expectation was realized.

I do not wish you to think that I am trying to make these cases give a better percentage of recoveries than they really do. That percentage, as the whole list stands now, is about one-third. But if we wish to consider only the final success or failure of the suture of the heart muscle we must limit our inquiry to the cases in which this procedure was really tested, and then we see that the percentage of recoveries may be considered a little more than two-thirds.

[1] Abstract of an Oration on Surgery delivered before the Fifty-third Annual Meeting of the American Medical Association, Saratoga Springs, N. Y., June 10-13, 1902.

Slow Advance in Heart Surgery.—The road to the heart is only two or three centimeters in a direct line, but it has taken surgery nearly 2400 years to travel it, for I take it that the operation of opening the chest for an empyema, which was known to Hippocrates, was a direct predecessor of the attempt to treat other thoracic viscera. We all know that before the antiseptic and aseptic eras pleurotomy for empyema gave very terrible results, and there could be but scant encouragement to draw surgeons to fresh fields. However, more than a century ago (1798) Desault, with the logic and precision which still characterize the French school, laid down the rules for opening the pericardium for an empyema situated in that sac and anticipated much of the technic of to-day, and it took surgery ninety-eight years to pass from the pericardium to the epicardium, across a space that is such only potentially.

The experience of the various operators has been, as might therefore have been expected, that the heart of man was no more resentful of intervention than were the hearts of other mammals, and that it not only could be handled, and even partially lifted from the pericardium, but that its muscle could be sutured so as to close a wound, just as can be done with the skeletal muscles. However, in the case of the systemic muscles rest can usually be enforced, either completely or partially, during the process of healing, but this can not be done with the heart. Here comes the great difference between the heart muscle and the skeletal muscles, both as regards suture and the reparative process, the heart must continue to act for the whole of the time.

The question centers, first, on the possibility of properly suturing, that is, placing a practical suture in the moving heart, and, second, on the result of the healing process. The first question is one of only technical moment, for the work on animals has shown that it can be done, and the experience of those who have sutured the human heart has not disclosed any special difficulty in the procedure, but the matter and manner of the sutures are debatable. The general advice is that the sutures of muscle should be of silk and it has been most frequently used in the heart muscle, but three of the successful cases, the two of Fontan's and the one of Launay's, were sutured with catgut. Elsberg has advised, as the result of his experiments on rabbits and dogs, that the suture material should be silk, and that the suture be an interrupted one, and very superficially placed, believing that deep sutures will tear out while superficial ones will hold. He also advises that the suture be placed and tied during the diastole of the heart.

Experimental Research.—To discover, if I might, the exact value of these somewhat confused matters, I have exposed the hearts in eleven dogs, and made wounds of various sizes and in different directions in the left ventricle, limiting myself to that particular cavity, since it is the one most frequently wounded. In each instance, except perhaps one, I verified the opening of the cavity of the ventricle by passing an instrument into it so as to get a free spurt of blood during one or two systoles. It was found that this verification was a practical necessity, for the non-penetrating wound of the myocardium will give forth, during systole, a spurt so large that it could easily be confused with one from the cavity of the ventricle. These wounds were then sewed with ordinary commercial cumolized catgut; in some deep and superficial stitches were combined; in some very deep, so as to surely penetrate the endocardium, were used, and in others very superficial stitches; and the variations of interrupted, continuous and recurrent continuous were practised.

In the earliest operations toothed thumb forceps were used to pick up a few muscular fibers to steady the organ for the making of the incision and the placing the sutures. At the first pinch the heart, of course, delayed a systole and then began to beat rapidly and violently and continued this as long as the forceps were in place. It was exactly as if the heart were surprised and at first checked by the intrusion of the forceps teeth, and then recovered to make violent and strenuous efforts to escape from the grip, and if the forceps' hold was continued it usually succeeded in this by the tearing of the fibers. One of my dogs died on the table from hemorrhage due to the tearing of the muscle in the bite of the forceps and my inability to at first catch the edge of the open wound in the bottom of a pericardium overflowing with blood, and although I did finally succeed in getting in two sutures they were placed too late.

To overcome this difficulty with the forceps I put into the heart, before incising it, two long suspension loops of silk, dipping the needle carrying them deep into the ventricular wall. These gave complete control of the organ, for they did not tear out, and even though the heart was hanging from them its function continued, and much less tumultuously that it did in the bite of the forceps; and with them the heart could be lifted quite half-way out of the pericardial incision, or it could be swung to one side or the other, or rolled over in either direction, its range of motion being limited only by the great vessels at the base.

I placed these loops side by side and about a centimeter apart, and could then incise between them, hold the wound open, by traction on the loops, to verify penetration and then, crossing the loops, could absolutely stop bleeding and steady the heart, for under this control the point of the incision seemed to be the starting point of the systolic waves.

Even with the incision coapted and held relatively motionless by the crossed and taut suspension loops—so that the placing of a suture was no more difficult than in an indifferent tissue—I found it impracticable, yes, impossible, to make a diastoles but to watch the knots as one should into place in the succeeding diastole, and to tie

the knots in the ones following. To do this would require a man to work with accuracy, and yet with perfectly-timed breaks in his work, in various fractions of successive seconds—for these hearts are always beating more than one hundred times to the minute. And the impossibility which I encountered has made it very difficult for me to believe that anyone, even if he has attempted it, has ever really done it. Nor can I see what is gained by it.

The heart does not bleed in diastole, it bleeds in systole, and the suture to be efficient must be tied at that time, and the way to do it is to tie quietly and firmly, during the rapid beating of the heart, and to take no account of split second diastoles but watch the knots as one should watch the knots of the ligature in a major vessel. And the same judgment which controls the tension of the suture should control the depth to which it reaches. I can not agree, from what I have seen of the actual working of the matter, that a superficial suture will hold when a deep one will tear out. One is suturing the myocardium, not the epicardium. Of course, it is inadvisable to penetrate the endocardium, but it is, at the same time, and fortunately, a difficult thing to do. I did it once because I intended to do it, and I had to take a larger needle than I had ordinarily worked with, and definitely carry it through the heart wall and return; and from this I learned that, with the medium-sized, full-curved needle which one would commonly use, the penetration of the left ventricle is not to be feared.

On this point it only remains to be said that, in the case in which the endocardium was included in the stitch, the strand of suture stretched across the cavity of the ventricle was the occasion of the formation of a little globular clot, which was found at the autopsy to be firm and white, and surrounded by a large post-mortem clot.

Elsberg's very complete studies of the healing process showed that the muscular fibers in the grip of the suture atrophy and are replaced by fibrous tissue, and he points out that, very evidently, there would be less of this lower grade tissue in the case of an interrupted suture; but, so far as I have been able to judge, the difference amounts to very little practically, and the saving of time in the continuous over the interrupted suture is manifest, and it is the method finally advised by Terrier and Raymond a year ago. I had thought that the lessening of the number of knots on the epicardial surface by the use of the continuous suture might be a special point in its favor, but the matter seems to be unimportant, for all knots quickly sink into the tissues, leaving a flush surface which is covered with fibrin.

Causes of Death.—For my experiments I have used dogs—primarily because of the size of the heart in the larger dog—and I had the same difficulty that other experimenters have had with the animal, for there is no mediastinum, the whole thorax being lined by one continuous membrane, and as soon as this is opened both lungs collapse, so that artificial respiration by bellows is needed. There are two important points in connection with this fact: a very large serous surface is exposed to the air and to infection, and it is practically imposible to avoid leaving a certain degree of pneumothorax when the chest is closed. Collateral traumatism and infection, then, led to the early death of most of the dogs; indeed, only two lived ten days and then both died of empyema and pyopericardium. This makes it impossible for me to speak as confidently regarding the catgut suture as I should like, for *a priori* I should prefer in this place the absorbable suture, because a stitch once in is there to stay, and the opportunity of going back and removing it, if its presence be resented by the tissues, can not be looked for. Still it is to be noted that one operator, Fontan of Paris, has the distinction of having twice sutured the heart with the recovery of both patients, and Launay has successfully closed two wounds in one heart, the suture material in all three cases having been catgut, and on the other hand, Nietert of St. Louis has also two successful heart sutures to his credit, his suture material being silk. Still, if it can be shown that the healing process takes place to a practical extent during the persistence of the catgut it will be reasonable to argue that no great objection can lie against the absorbable suture. In Elsberg's paper he asserts that reparative processes are in train in twenty-four hours, in forty-eight hours there is a dense round-cell infiltration; by the fourth day spindle cells appear; by the seventh day they replace the degenerated muscle fiber, and by the tenth day the granulation tissue is becoming fibrous tissue. He reports several rabbits killed on the fourteenth day with the wound in the heart firmly healed; and in one instance a rabbit dead of sepsis had a firmly-closed heart wound on the eighth day. In two of my dogs, both dead of sepsis on the tenth day, the heart wounds were firmly closed, with no evidence of leakage or hemorrhage, although in one the infective process had attacked the epicardium and penetrated the myocardium. It does not need to be said that these dogs count for very little; but the inference is simple, from the whole evidence, that wounds of the heart muscle heal very rapidly and that the process may be practically completed quite within the life of a catgut suture. And the evidence of Fontan's two patients, one of whom was infected, and Launay's case of two wounds in one heart, are on the same side, and I shall therefore assume that catgut is, at least, a permissible suture material.

Success of the Closure of Heart Wound Finally, it has to be said that in my dogs these sutures, however placed or tied, always controlled the hemorrhage and closed the opening, and that the healing processes, as they were studied, followed a course practically similar to that in Elsberg's experiments on rabbits, up to the death of my animals. They show that the repair in heart muscle is in no way different from the repair in skeletal muscles, and that it is no

more interfered with by the action of the heart than are the nutritive processes of the organ.

I do not know any of the successful cases of heart suture in man to have been fatal later, but there is reference to a case of Izzi's in which the heart was wounded but not sutured, and the man recovered, but on the twenty-eighth day, having left the hospital, he made considerable effort to lift a weight and rupture of the cicatrix in the heart wall and sudden death followed. Of course, the wound in this heart had been filled by a coagulum, and in the process of healing this was organized or replaced by cicatricial tissue, and there never had been the proper coaptation of the heart muscle in the edges of the cut.

So far as the heart itself is concerned the proposition for its suture, in case of wound, is properly established; and if it were a superficial organ and easy of access, and if the path by which it is reached could easily be closed again, the whole matter would be eminently simple. The operation would be more frequently done for the occasions demanding it would more frequently arise, and the whole technic would be quickly worked out in detail. But the heart, while it is close to the surface of the body at one point, is not a superficial organ, and to reach it the bony and muscular chest wall has to be traversed—a matter of no special import—and two serous sacs have to be invaded. Herein lies the great difficulty.

Interference of the Pleura.—It is true that in a dissection the pericardium can usually be reached without a wound of the left pleura, but it only can be done by taking the pleura definitely into account. The anterior limits of the sac are various and in the dissecting-room it has been found to extend across behind the sternum almost to the right border of the bone. Commonly, it overlaps and lies just internal to the left border of the sternum as far down as the fourth cartilege, and from this point gradually passes downward and outward, crossing the sternal end of the border of the fifth cartilage and just internal to the middle at the sixth. A wound, therefore, to reach the pericardium and heart without injuring the pleura would have to be placed in the sixth interspace and close to the sternal edge, and be directed almost exactly backward. This place is so small that practically it is never found, and it is necessary to consider that all wounds which penetrate the pericardium have traversed the pleura, and it is across the same tissue and sac that the surgeon must pass who attempts to repair the wound. There is another point to be considered here. The opening of a serous sac, either accidentally or surgically, exposes it to infection, and the serous membrane, by a power inherent in it, deals with such infection as occurs unless the latter overwhelms it. The question has been thoroughly studied by all, in its relation to the peritoneum, but I wish merely to refer to the fact that the peritoneum offers opportunities for the localization of an infection which can not otherwise be disposed of, and that intestinal rest may contribute greatly to this localization. Both the pleura and pericardium differ from the peritoneum in this respect—the surfaces of neither offer pockets or recesses in which an infection may be confined, and constant motion incident to breathing and the heart beat tends to disseminate pathogens and quickly to distribute them over the whole surface of the sac.

So far as the arrangement of the lymphatics of the pleura is concerned, its power of absorption should be greater than that of the peritoneum, and in certain cases of infection, as in the empyema of pneumonia, it does show considerable ability to deal with the condition; but in view of the great frequency of infection of the left pleura in connection with heart wounds, I am obliged to believe that the inability to obtain surgical rest for the tissue is a prominent factor in producing and perpetuating the condition.

In writing on wounds of the pleura and lung, Terrier and Reymond claim that infection of the pleura is not likely to occur unless there is a coincident wound of the lung. They argue that the infection probably comes from a bronchus, and base the treatment necessary for a traumatic hemothorax on the presence or absence of hemoptysis. In no one of the clinical histories of these heart wounds which I have seen is there mention of hemoptysis, but they nearly all had hemothorax, large quantities of blood being in the pleura, and a large percentage had a subsequent infection.

Sepsis and Drainage.—Of the thirty-four cases, nineteen lived long enough for the development of an infection, and in ten it developed, and of these six died, showing that infection so affects prognosis in these cases that a man infected has not so much as half a chance to recover; or, to put it differently, more than half of the cases were infected, and of these more than half died. It is of particular interest to know the time of implantation of the infection, and I have found records of nine other cases of wounds of the pericardium and heart which were not submitted to any primary operation, and of these three had local infection, and one had primary local healing but died of a peritonitis. The number of cases is very small, but so far as they go they show that about one-third of them are infected by the wounding instrument and that primary operation increases the chance of an infection to more than half; this, however, must not be taken as counting against the doing of the operation, for its object is to control conditions which lead to certain death, and even with an infection recovery is not impossible. The knowledge of the great likelihood of an infection at the time of the receipt of the wound must be made use of, and one must consider if such a wound is not to be treated as one already infected. If this be done some method of drainage will be employed, and the detail of its arrangement is complicated by this fact, that one serous sac, the pericardium, must be drained across or through another, the pleura. The advice is given, probably in view of

this difficulty, that both pericardium and pleura be closed without drainage, but some operators have drained and their results merit consideration. So far as I can learn, eleven of the thirty-four cases had primary drainage arranged, four for the pleura alone, and seven for the pleura and pericardium. Of the eleven seven recovered though two had infection. Of the four who died, two died of sepsis, and two of collapse before the possibility of knowing if sepsis was to develop or not, and if we exclude these last two we have nine cases drained and seven recovering.

Now, on the other side there were nine cases that had no primary drain, and did have infection, and of these five recovered. The number of cases is small, seven out of nine and five out of nine, but in these cases, as in many, many others, a hair, perhaps, divides the chances of success from those of failure, and where we have only small statistics at hand, it is with those that we must work, and on them base our future actions.

In the time allotted this paper on the program of the Association it has only been possible to discuss the two technical points of suture and drainage, and the matter of the symptoms and the anatomic details of the wounds which have been put on record have, in spite of their importance, been passed by. Very briefly, the symptoms may be listed as consisting of the external wound in the precordial region, the general evidences of hemorrhage, the disturbance of the heart function sequent to the trauma and the acute anemia, and the local signs of the filling of the pericardium and, secondarily and in most cases, the pleura. As regards the wound itself, I believe, from examining the hearts which I have punctured and incised, that the endocardial wound is always smaller than the epicardial wound, excepting, I should imagine, in the bullet wound cases. This difference in the size of the wound at its two limits will explain the living of some with apparently large wounds but from which

CASES OF SUTURE OF WOUNDS OF THE HEART.[1]

Operator and Year.	Location of External Wound.	Chamber Wounded and Size of Wound.	Time of Operation after Injury.	Anesthetic.	Results and Remarks.
27. Ninni. 1901	Left of sternum	R. A.			Death in four days.
28. Mignon et Sieur. 1901		R. V.			Death.
29. Fontan. 1901		L. V.; catgut sutures			Recovered. Had empyema sepsis.
30. Brenner.[2] 1901	Left of sternum, near sixth cartilage	R. V.; 7 cm.	Following day	Yes	Death on table; degenerate heart muscle.
31. Watten.[3] 1901	Fourth right intercostal space	R. V.; 3.5 to 4 cm.			Recovery; right pleura wounded; pneumothorax.
32. Lastaria. 1901		L. V.			Died soon.
33. Launay.[4] 1902		L. V.; ant. and post. walls: pistol shot; catgut sut. in each			Recovery; no complications.
34. Nictert.[5] 1902	Left sixth interspace, to right of papillary line	L. V.; far back, 2 cm.; penetration uncertain; two interrupted silk sutures	14½ hours		Recovery; purulo-sanguinolent effusion and thoracotomy.

[1] Cases 1 to 26 were tabulated by Geo. T. Vaughan, M.D., in the MEDICAL NEWS of December 7, 1901.

[2] Wiener klin. Woch., 1901, No. 11. [3] Deutsche med. Woch., 1901, No. 37. [4] La Presse Médicale, March 29, 1902. [5] Phila. Med. Jour., May 3, 1902.

In the drainage of the pericardium there is a point worth mentioning. The material should, of course, be gauze; it may be put in a small space left unclosed at the lowest point of the wound (Mignon et Sieur) and it does not need to go deeply into the sac, for with the patient supine or reclining the heart will sink in any effused fluid toward the dorsal side of the sac displacing the fluid toward the ventral side, where a drain may easily reach it; but the fluid must pass upward from the pericardium toward the skin opening, and this is, of course, a disadvantage. For the pleura a drain may be arranged to make its exit by the same opening as that for the pericardium or, and this seems the wiser plan, it may have an independent opening near the posterior axillary line, where it will be of most service if empyema does develop, and may, in such a case, obviate the need of a secondary thoracotomy. Of course, if no sepsis supervene all drains should be very shortly removed.

the amount of bleeding has not been commensurate with the size of the visible wound. It is necessary only to revert to the fact that the different parts of the heart behave somewhat differently when wounded. The thicker wall of the left ventricle offers a greater obstacle to hemorrhage and a better opportunity for suture than any other part; wounds of the right ventricle bleed more and are more difficult to suture, and the thin-walled auricles are saved from a lethal hemorrhage, when they are wounded, by the comparatively low pressure of the blood in them, while in their loose structure a practical suture is a difficult thing.

Conclusions.—The operations which have been recorded mark only the beginning; the heart is now destined to be submitted to many manipulations provided they may be done without stopping its action at once. It is a very unsafe thing to prophesy, but that more will be attempted can easily be inferred, for interference with the mitral

orifice has already been suggested, and the immediate neighborhood of the heart has been invaded and a sacculated aneurism of the aorta has been tied off, the success of this well-executed maneuver being prevented only by the failure of the atheromatous vessel walls to heal. Possibly, the next step may be delayed as long as the application to the heart of common surgical methods was delayed after Desault had taught us to open the pericardium. Perhaps it may come soon. It is not impossible that a new surgical technic may have to be created, but it is most probable that the next step will be based on the new application of the very old matters of the suture and drainage.

THE RELATION OF MEDICAL SCIENCE TO COMMERCE.[1]

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I HAVE been informed that there is no rule of the Association which fixes the subject of this address. I hope I may be pardoned when I depart from the custom which my predecessors have usually followed when they confined the subject of the address to the progress of medicine during the year just past.

We live in a period of the greatest activity of the history of the world. Modern inventions annihilate time and distance. Electricity and steam approximate the most distant parts of the civilized globe. Vast amounts of capital are invested in electrical, steam and other related interests.

Competition is great in all the affairs of men. The struggle for supremacy between nations and between men was never so fiercely contended as now. The world is richer than ever before. Great individual fortunes, the result of the efforts of the few years of a single span of life, are seen everywhere. The wage of the laborer in our country is larger than ever before and he may command the necessaries as well as many of the comforts of life.

This modern restless activity, with its nerve-racking, the evil results of a luxurious life, the moral obliquity which it may breed, as well as many other conditions which affect the health of individuals, while of interest to medicine, does not concern us in the consideration of the broader subject of this paper.

The Broader Application of Medical Science.—Medical science is interested in and is of greater importance to the world than ever before, in protecting individuals, states and nations from infectious diseases, which are rendered more dangerous than formerly because of a denser population, increased facilities of communication between the peoples of the earth, by travel and by national and international interchange of food and other commercial products.

Medical science, too, is closely identified with the vast monied interests of the merchant marine and of national and international commerce. Quarantine against the spread of infectious disease is applied wisely or foolishly in direct ratio to our knowledge or ignorance of the cause, the means of transmission and the evolution of disease. So, too, medicine has to do with the knowledge which will enable man to escape from and finally remove the conditions which cause infection and which render a country uninhabitable to civilized man.

Medical science must safeguard man against infection and intoxication from parasitic diseases of animals used for food and from contaminated and adulterated food and drink. Not only from a humanitarian standpoint is medical science related to commercial pursuits, but the sciences related to medicine have done much to preserve animals used for food and to protect agricultural interests of many kinds from disease and destruction.

One may say, I think, that in no other pursuit which engages the serious attention of men are there as many earnest, unselfish and philanthropic workers as there are to-day in the broad field of medicine.

In the various departments of science related to medicine one finds educated, skilled, energetic, earnest workers after truth, willing to sacrifice home, friends, health and life for the advancement of the science which has for its primary object the conservation and prolongation of human life. Pecuniary reward for them is never large and never commensurate with the character of the work.

Furthermore, great and astounding as are the modern commercial inventions, the progress made in medical science during the last twenty years is equally great.

Is modern medicine prepared to meet the demands of modern progress concerning the questions which interest humanity and commerce? Let us answer the question by a brief retrospect of the progress of medicine and by a statement of the present status of medical science.

First Application of Physical Sciences to Medicine.—From the latter part of the eighteenth to the beginning of the last quarter of the nineteenth century the science of medicine developed steadily upon a rational physical basis. Jenner's discovery of the protection of the human race against variola by vaccination with cowpox illuminates with noonday splendor an era otherwise gloomy with its hypotheses, theories and superstitions concerning disease.

This single brilliant achievement of the end of the eighteenth century was the beginning of the evolution in medical science which made the nineteenth century notable. The application early in the nineteenth century of physics, of physiology, of pathologic anatomy and of chemistry, to the study of disease, developed a more exact knowledge than before existed. To Auenbrugger that early period owes much through the discovery

[1] Abstract of an Address in Medicine, delivered at the Fifty-third Annual Meeting of the American Medical Association, Saratoga Springs, N. Y., June 10-13, 1902.

of methods of physical examination which were slowly developed and perfected by Corvisart, Laennec, Piorry, Skoda, Wintrich, Traube, Louis, Cheyne-Stokes, Graves, Corrigan, Flint, Scudamore, and others. Pathologic anatomy made wonderful strides under the labors of Virchow, Rokitansky, Arnold, Stilling and their students. Physiology was developed by the labors of Johannes Müller, Brücke, Helmholtz, Trousseau, Vierordt, Foster, Carpenter, Magendie, and their disciples; and the fuller knowledge embraced in physiologic chemistry was added to the rapidly-broadening field of medicine by Hoppe-Seyler, Schwann, Stricker, Prout, Liebig and others.

Bacteriology.—Bacteriology became an exact science with the discovery of Robert Koch of cultural methods which made differentiation of bacteria possible. In twenty years the bacterial cause of tuberculosis, typhoid fever, cholera, diphtheria, pneumonia, pyogenic processes, erysipelas, gonorrhea, epidemic meningitis, epidemic dysentery, the plague, charbon, glanders, tetanus, influenza, and lepra has been proved.

Parasites.—The discovery of the hematozoön of malaria by Laveran; the recognition of the ameba of dysentery by Loesch; of the ray fungi and especially the actinomyces as infective agents in the lower animals and in man, and the more exact knowledge of other animal parasites infecting man and animals, which the microscope has made clear, have been as epoch-making in parasitology as the discoveries of Pasteur and Koch in bacteriology.

The knowledge of the cause has led to a study of the life-history of infective organisms outside of as well as in the animal body. The rôle which insects which infest animals play as definitive or intermediate hosts has been studied and proved. The discovery by Manson of the transmission of *Filaria sanguinis hominis* by the mosquito was of vast importance as a suggestion of the mosquito as a definitive host in malaria. The investigations of Manson, Ross, Celli, Grassi, Dionise, Marchiafava, Bignami, Koch and others have made our knowedge of malaria exact. Not only may we recognize the disease definitely and apply the drug treatment more rationally, but the knowledge of the means of its transmission from man to man enables us to apply preventive measures which are of the greatest importance from a commercial as well as from a humanitarian point of view.

The brilliant research work of our own Reed and Carroll in 1900 in Cuba, by which they proved that the mosquito of the genus *Stegomya* is the sole means of the transmission of yellow fever from man to man is of great importance as a scientific fact. The influence of this discovery upon mankind as a prophylactic against a disease which has killed multitudes and also from a monetary point of view, in reference to commercial pursuits, is not appreciated at this time as it should be.

Hardly less important is the fact that the *Bacillus pestis* may infect fleas and these in turn infect rats, mice and man. It is important, too, to know that pests like the house-fly may be carriers of infective bacteria from refuse filth to our kitchens and tables and contaminate food and thus infect us with typhoid fever, cholera and perhaps other diseases which are propagated by filth.

Protective Inoculation.—Long before bacterial toxins were recognized as the cause of disease phenomena, Pasteur established the principle of protective inoculation with bacteria of lessened virulence, which was brought about by attenuation of the bacteria by a modification of cultural methods and also by serial inoculation of certain lower animals. This he successfully applied to charbon in sheep and cattle and to chicken cholera.

His final life's work was no less important, in firmly fixing the immunizing influence of attenuated bacterial inoculation in rabies. Pasteur recognized the fact that in hydrophobia the brain and other nervous tissue of an infected animal are capable, when inoculated into another animal's brain, of producing the disease. That the infected brain, used for inoculating animals, contained the bacteria, which caused the disease, was proved by the fact that a stage of incubation occurred in the inoculated animal and that a series of animals were successfully inoculated consecutively from the first. Pasteur then successfully attenuated the unknown bacterium of hydrophobia present in the nervous tissues of an inoculated animal by desiccation of the nervous tissue in a sterile apparatus by methods too well known to repeat.

It is now a well-known fact, however, that inoculation against disease was practised by the Chinese 1000 years ago. To Jenner, however, do we owe the first example of the protective inoculation by means of an attenuated virus. This attenuation we now know was established by the accidental inoculation of milch cows with smallpox, producing a modified disease, vaccinia.

Serumtherapy.—When chemistry had revealed the nature of bacterial poisons and experiments established their relation to the phenomena of disease, it was proved that substances were formed in artificial culture media and in the blood and tissues of infected animals which had the power to neutralize the effect of the bacterial poison in other animals infected with the same organism. Further investigation showed that an animal inoculated with the laboratory preparation of antitoxin was protected against the disease. Furthermore, it was found that the blood serum of an animal inoculated with bacteria in a non-fatal and repeated dose contained an antitoxin. When the blood serum of the infected animal was injected into a healthy animal, the latter was protected against the original disease.

Antitoxin was, therefore, proved to be formed in artificial media of bacterial cultures and in the bodies of infected animals. When the antitoxin thus formed was injected into an animal it had

the power to protect it against the particular bacterial infection or, if given subsequent to the infection of the animal, to mitigate the severity of the disease or to check it entirely.

Thus, by Koch and his students, was serumtherapy established as a principle. Upon this principle there has been established and given to the world the antidiphtheritic serum of Behring and of Roux.

A curative or immunizing serum has been developed for Asiatic cholera, tetanus, erysipelas, plague, epidemic dysentery, streptococcus infection and other diseases. While the serum treatment has not proved successful in all the diseases in which it has been used, it has been so successful in some—diphtheria, for instance—as to firmly establish the principle of serumtherapy.

Influence of Bacteriology upon Practical Medicine and Surgery.—These practical results in specific prophylactic and curative therapy are but a small portion of the influence which bacteriology has had upon medicine. The stimulus given by bacteriology to the study of pathological anatomy, physiological chemistry, clinical phenomena and of physical and chemical changes of the fluids and tissues of the body, has resulted in a knowledge so comprehensive that medical science has been revolutionized within the last twenty years.

Bacteriology made possible the comprehension of perfect cleanliness and enables the surgeon to invade every part of the body without fear of infection and has saved thousands of lives which twenty-five years ago perished miserably as the result of disease at that time inoperable, or the result of infection from contact with the surgeon.

Bacteriology has stimulated laboratory clinical diagnosis. Bacterial reactions to sera and blood cultural tests are of the greatest aid to diagnosis. Clinical research work has command of an armamentarium consisting of a knowledge of pathological anatomy, of physiology, of bacteriology, of chemical physiology and of physics, which allows of a precision in diagnosis never before at the command of the physician.

Prevention of Infection.—To-day no sane man believes in spontaneous generation. The presence of an infective disease either bacterial, protozoic, parasitic or fungous, means the recognition of progenitors in the near environment of the infected organism. In practically every one of the diseases of animals above named the scientific investigator has already discovered the nature of the infecting agent, knows its life-history, what conditions are most necessary for its propagation and multiplication and what will remove and annihilate so dangerous an enemy.

Our Department of Agriculture and especially the Department of Animal Industries, have done much to place comparative medicine on a scientific basis. Briefly stated, there is not a fungous-parasitic or animal-parasitic disease of the lower animals which can not, with our present knowledge, be stamped out for all time.

Smallpox.—But what of the epidemic scourges of the earth, smallpox, yellow fever, cholera and the plague? No rational individual can for a moment doubt the protective influence of bovine vaccination against smallpox. Medical science, therefore, possesses the knowledge to rid the earth of variola. From a humanitarian point of view, this knowledge is priceless. Still, let one but compute the sum saved to the nations of the earth by vaccination, estimating each life saved at $5,000, the usual valuation placed upon human life by statute. Great as would be this sum, it is many times less than that saved to the commercial interests of the world by the control of the disease which even inadequate vaccination has afforded. Think for a moment of the loss to commercial interests by quarantine and other restrictive measures, in the event of an epidemic of variola, without protection from vaccination.

The Plague.—The plague, the Black Death, which was first recognized in Europe in the year 543 as the *Peste Justinenne*, became pandemic in the fourteenth century and it is said that 24,000,000 people died of it. In 1894 Dr. Yersin, Director of the Pasteur Institute at Hong Kong, discovered the *Bacillus pestis*. He elaborated a serum which has since been used with success as a prophylactic and curative agent. Haffkine prepared a protective vaccine which has also proved successful as a protective inoculation. It has been used in hundreds of thousands of cases in India with no harmful results and is said to reduce the susceptibility at least 75 per cent. and the mortality about 90 per cent.

The plague, the Black Death of the fourteenth century, still exists and rages with fearful mortality in communities which have no regard for hygienic surroundings. It is communicated to people through the abraided skin, or by flea bites, through the respiratory tract apparently by bacteria in dust-laden air and also through the alimentary tract by contaminated ingesta. Modern hygienic measures, which consist of perfect cleanliness, isolation, the destruction of vermin and the use of Haffkine's vaccine as a prophylactic and Yersin's curative serum, serve to control the disease. There can be no doubt that if sanitary authorities will take proper precautions to recognize the disease, proclaim its presence and then control it by the means which science has discovered, that the terrible scourage may be safely held in check and finally abolished from every civilized community.

Yellow Fever.—The mortality from yellow fever in the United States during the last one hundred years, 1798-1897, has been about 80,665. This gives an average annual mortality of 807. Several severe epidemics have occurred and it has prevailed extensively in small towns where the mortality records have not been kept. Hence these figures do not represent the full annual death-rate from the disease. Yellow fever has been the scourge of the West Indies, Central and South America, Mexico and of our Gulf States.

Recognized as an infective disease, indefati-

gable search has been made for the bacterial cause by many earnest workers. Although the specific bacterium of yellow fever is not known, a most brilliant discovery has been made of the means of transmission of yellow fever by means of the mosquito (*Stegomya fasciata*) by two of our countrymen: Walter Reed, Surgeon U.S.A., and James Carroll, Contract Surgeon U. S. A. Twenty years ago Finley associated the transmission of yellow fever with the mosquito, but no proof of this was given until the epoch-making and decisive experiments of Reed and Carroll. Furthermore, these experimenters proved that fomites contaminated with the vomitus and discharges of yellow fever patients do not transmit the disease to man.

In Havana, Cuba, the sanitary authorities of the United States have attempted during the last year or more to test the fact of yellow-fever transmission by the mosquito. To this end the city was made clean; the breeding-places of mosquitoes in and about Havana were destroyed as far as possible and persons suffering from yellow fever were isolated and protected from the mosquito. Thus the number of moquitoes was much diminished and care was taken that remaining mosquitoes did not become infected by biting yellow fever patients. As a result yellow fever disappeared from Havana and for the first time in years no case had occurred up to May 1 of this year. The usual marine quarantine regulations of the United States restricting the non-immune travel from Cuba was postponed. Furthermore, the Congress of the United States will probably modify the quarantine regulations in reference to yellow fever to meet the more hopeful conditions which the researches of Reed and Carroll have established in relation to the definite transmission and control of the disease.

Malaria.—Malaria has not borne as important a relation to commercial communication between people as have yellow fever and the plague. Nevertheless, it has had an enormous influence upon the health and prosperity of the inhabitants of certain regions where it is endemic and at times epidemic in its prevalence. The principles which prevail to induce malaria in a certain region is the existence of human malaria and of the mosquito of the genus *Anopheles.*

The mosquito is annoying but harmless until it becomes infected with malaria by biting a human infected with the disease. Such an infected mosquito may inoculate all the people it subsequently stings. In this manner a region ordinarily free from malaria may become infected by the importation of a case of malaria from a distant point. It is also possible that a mosquito infected with malaria can be transported by railroad or ship in the luggage or clothing a considerable distance and then sting and infect individuals in its new environment.

Malaria is so widely disseminated over the world and the opportunity for continued infection of the mosquito so great that it seems almost hopeless to try to eradicate the disease. The principle upon which malaria may be fought has been suggested by science and has proved of value. This consists of the destruction of the mosquito and its breeding-places. The prevention of the infection of the remaining mosquitoes by isolation of the malarious individual from the mosquito and the diminution of malarial material in man by an attempt to cure him with quinin and other antimalarial remedies.

Experiment has already demonstrated that non-immune individuals may live safely in the most malarious districts, with adequate yet simple protection from the sting of the mosquito infected with malaria. Man thus protected against malaria may now explore, settle in and develop regions of the earth hitherto inaccessible because of the danger from the deadly tropical malaria.

This address would become too long were one to take up other infectious diseases, although in some of them the science of medicine has made such successful investigations that the knowledge of the cause, means of propagation and dissemination is exact.

Typhoid Fever.—I can not close without saying that if in typhoid fever we could employ, unembarrassed by the great cost of the necessary measures, the precautions which science affords to prevent water and food contamination, the disease would be effectually abolished. The great cost of the measures necessary to stamp out typhoid fever would, however, be an economic measure, inasmuch as the immense value to the state, of the conservation of the labor of the thousands sick and the lives saved each year would more than compensate for the treasure spent.

Value of Medical Science Not Recognized.—However much medical science has done for humanity and great as the value of the knowledge of infectious disease is to the commercial interests of the world, scientists have not, especially in our own country, received the recognition and financial aid from the state, from corporations or from wealthy individuals which they deserved.

Medical Science Should Receive Financial Support.—Medical science should receive the moral and financial support of states and municipalities in the employment of the measures which science has proved to be efficacious in modifying, restricting and abolishing infectious disease. Wealthy corporations and individuals, should establish institutes of original research in properly-contructed and equipped hospitals and laboratories. There are many earnest, indefatigable and conscientious medical investigators could make more perfect the knowledge we already possess of many of the infectious diseases and, unembarrassed by financial needs, could search for the cause, the means of transmission and the prevention and cure of the diseases of which we know but little.

Funds, too, should be created to support the cost of committees of scientific investigators in regions now dangerous to the white man. By

such means the many plagues of the tropics would be investigated and conquered. Regions uninhabitable or dangerous to the Caucasian would become accessible to settlement and commercial intercourse. Civilization, humanity and commerce would be advanced and multiplied.

It is right, therefore, that medical science should demand of the monied interests of the world the recognition which, though long withheld, is her just due. This she asks, not that individuals may profit in either fame or fortune, but that she may the more readily rid the world of infectious diseases for the sake of humanity.

ORIGINAL ARTICLES.

INTESTINAL ANASTOMOSIS: FURTHER REMARKS THEREON.[1]

BY FREDERICK HOLME WIGGIN, M.D.,
OF NEW YORK.

THE gynecic surgeon in the course of his pelvic work is frequently obliged to separate portions of adhering intestines, and consequently is liable to be called upon unexpectedly to excise and unite damaged portions of the intestinal tract. No surgeon, therefore, should undertake the performance of an intra-abdominal operation until he has prepared himself to do this by the understanding of a few well-known general principles and the mastery of simple technical details requiring a moderate degree of skill.

To Joubert and Lembert we are probably indebted for the knowledge that when injured peritoneal surfaces are approximated lymph is quickly thrown out and rapid union of the parts follows, provided the inflammatory process be not septic in character. Gross of Philadelphia in 1843, in his monograph entitled "An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines," pages 3 and 5, called attention to the importance of including in an intestinal suture some portion of the fibrous coat lying between the muscular and mucous coats of the bowel. Important as these points were, they became available only after the establishment of aseptic methods had given surgeons the courage to extend their field of labor to include the abdomen and its contents. In the last part of the nineteenth century, Senn gave a great impetus to surgical interference with the intestinal canal which soon resulted in the announcement of two new methods of uniting divided intestinal ends, that of Murphy of Chicago, who accomplished it by the aid of his ingenious button placed in the lumen of the gut, and that of the late Professor H. Widenham Maunsell of London, who obtained the same result by means of sutures passed through all the coats of the gut in such a way that when they were tied the knots were in the lumen of the bowel, the divided intestinal ends having been invaginated and drawn through a slit made for the purpose in either the proximal or distal end, about two inches from the point of division. He also pointed out the necessity for care in approximating the mesenteric border of the divided portions of the bowel. The writer, in reporting the second successful operation by this method, in a paper read before the Society of the Alumni of Bellevue Hospital, November 1, 1893, published in the *New York Medical Journal* of January 20, 1894, called attention to the fact that a fifteen-volume solution of hydrogen dioxide could be safely and advantageously used to cleanse the peritoneum when contaminated by infectious material, and also to the fact that the peritoneal cavity might be left full of saline solution, with advantage to the patient, when the abdominal wound was closed, not only for the purpose of lessening shock, but in order to prevent intestinal adhesions, to aid in the readjustment of the intestines and omentum to their proper positions, as well as to lessen the danger of septic peritonitis, and to aid by osmosis the action of the bowels. Dr. W. A. Evans, in a paper read before the Section on Surgery of the American Medical Association in June, 1900, published in Volume XXXV., page 1459 of the *Journal of the Association*, says that the danger of secondary stricture following the performance of circular enterectomy due to the development of scar tissue need not be feared. This view has been abundantly supported during the last ten years by the experience of the writer as well as by that of other surgeons. Experience has also proved the objection raised by Maunsell to the use of secondary sutures, on the ground that they obstruct the intestinal circulation and so interfere with firm plastic peritonitis, to be without foundation, and has shown that they can safely be used when considered desirable. A point that has been found to be of practicable importance in repairing intestinal damage is the necessity of removing all diseased or thickened intestinal tissue and of uniting that which is normal. In the writer's experience, horsehair has proved to be the most useful material for suturing the gut, as it is elastic and permits the employment of a small, round needle—milliners' No. 6.

It is well to remember that complete union of approximated peritoneal surfaces occurs in about sixty hours, and that after the third day the patient's bowels can be safely moved.

By intestinal anastomosis is meant the restoration of the interrupted continuity of the intestinal canal. This may be accomplished in diverse ways, many of which, however, have been discarded. For the purposes of this paper the methods considered will be that of Murphy, the writer's modification of Maunsell's method, described in a paper read before the New York State Medical Association, October 19, 1898, and published in the *Medical Record* of November 19th of the same year, and Connell's modification of the same procedure.

The writer's objections to the Murphy method were set forth in a paper read before the New

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, March 27, 1902.

York State Medical Association, October 11, 1894, published in the *New York Medical Journal* for December 1st of the same year, and were as follows: It places in the intestines a foreign body which is occasionally therein retained, thus rendering necessary a second laparotomy for its removal. It makes the patient dependent on the craft of the cutler rather than upon the skill of the surgeon, the spring of the button being made at times too strong and at other times too weak; there do not seem to be indications by which it can be known when the instrument is properly constructed; there is the trouble of being obliged to have a button or buttons of the proper size, a perforation of the bowel following the use of a button a little too large for the portion of bowel united; there is danger in the weight of the button which may act as an anchor to hold the bowel in a flexed position, thus causing obstruction; there is danger of the lumen of the button becoming plugged with hard fecal matter; there is danger in the holes placed at the ends of the button for the purpose of drainage causing a perforation, the intestines being pressed into them and against their edges if care be not used in pressing the segments together; the danger of this accident may be lessened by placing a sponge behind each segment of the button before they are pressed together. Further experience during the last six years with this method of uniting the interrupted continuity of the intestinal tract has confirmed the views herein expressed, and in connection with this subject it may be of interest to quote in part Dr. Murphy's reply to the objections to his method just alluded to, which were published with the writer's paper and seemed to strengthen his position: "The statement that the button is a foreign body in the intestinal tract and may be retained, thereby rendering a secondary operation necessary for its removal, is true, and it has occurred. What danger is there, when the case is properly managed, should it occur? This would, therefore, appear to me to be a very small objection, and I cannot consent to its being of sufficient importance to designate the instrument unsurgical. The second objection, that we depend on the craft of the cutler rather than on the skill of the surgeon, is not well taken. We might as well argue that we depend on the silk manufacturer for the silk used; we do, but the cautious surgeon tests his silk; he should also test his button. I have volunteered to examine the buttons for all of the manufacturers. I have sent models to all manufacturers who have requested them, and would gladly inspect, and do inspect, all buttons sent to me for that purpose. I have found a number of reliable instrument-houses making perfect buttons. With this advantage, there is no conscientious surgeon justified in using a button unless he knows that it has been inspected or has been manufactured by some reliable house. There are defective buttons on the market; this I am powerless to avoid, as our ethics prevent me from procuring a patent on the button, thereby controlling its manufacture. I certainly do not believe that the fact that defective buttons have been manufactured is a valid argument against the utility of the device."

Mr. L. A. Bidwell, in the course of an article in the *Clinical Journal* of London, September 21, 1896, page 339, in speaking of the Murphy button says, "The results in this country with the Murphy button have not been as good as the inventor's; in several cases the button has produced ulcerative perforations of the intestines below an otherwise successful joint. To my mind it is unsatisfactory to trust a patient's life to the efficacy of a spring when we have methods which do not involve such a risk." In the March, 1902, number of the *Annals of Surgery*, page 352, O. H. Allis of Philadelphia records some failures of the button to give satisfactory results; on the other hand, at the last meeting of the International Medical Congress, Murphy presented statistics of 1,620 cases of intestinal anastomosis in which his button had been used, and in which list malignant and non-malignant cases were included, with a mortality of 19.3 per cent., while the result of the operation in sixty-six cases of a non-malignant character the mortality was only 2 per cent.

In comparing the relative merits of the Murphy method of anastomosis with that devised by Maunsell in the paper already alluded to, the following statement was made which expresses the writer's views at the present time as well as when they were written. "The method of intestinal anastomosis devised and described by Professor Maunsell in the March, 1892, number of the *American Journal of the Medical Sciences*, if not so alluring as that of Professor Murphy, has, to the writer's mind, many advantages over the latter. If the union cannot be as quickly effected, it requires for its performance no mechanical device—only a few needles, silk or horsehair for sutures, and experience and general surgical skill. That the method is not as frequently employed as it deserves to be is due to its having been introduced about the same time as the Murphy method, which, from its apparent safety, ease, and lack of special skill required for its accomplishment, has temporarily captivated the medical mind. In time it will be determined which is the better method. The writer believes that in the future the Maunsell method will at least be more frequently employed, if it does not eventually displace the other."

The description of Maunsell's method of intestinal anastomosis was revised by the writer and published in the *New York Medical Journal* for December 14, 1895, because of Professor Maunsell's expressed dissatisfaction with his original article—wrong descriptions having been placed under the cuts—and his death before he could attend to the matter for himself; the chief value of his work lay in calling the attention of the profession to the fact that divided bowel ends could be safely united by means of sutures passed through all the coats; that the knots could be placed within the lumen, and that care

must be taken to include the mesentery when passing a suture at the lower border of the bowel. The part of his method that was faulty was the making of a slit near the end of either one of the sections of the divided bowel and the bringing out through this opening of the invaginated bowel ends before uniting them by sutures. After further experience with the method it soon

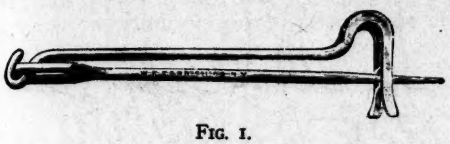

FIG. 1.

became apparent to the writer that these objectionable features were unnecessary complications of an otherwise satisfactory procedure and could readily be done away with. The attention of the profession was called to this fact in the course of a paper read before the New York State Medical Association, October 19, 1898, published in

FIG. 2.
McLaren's clamps.

the *Medical Record* of November 19th of the same year.

The modified operation as successfully practised for many years past by the writer is as follows: The portion of intestine to be excised is brought outside the cavity, accompanied by

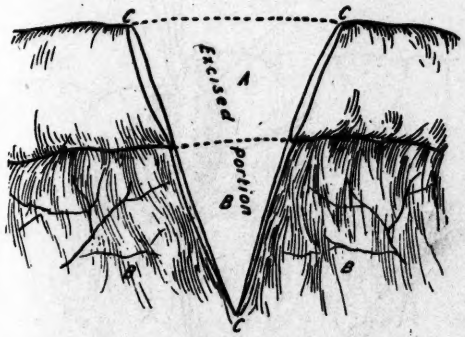

FIG. 3.
A, B, portion of intestines and mesentery removed; *B, B* mesentery; *C, C, C,* lines of the incision.

about six inches of healthy intestine on either side. It is next emptied of its contents above and below the damaged spot by passing it between the finger and thumb and gently pressing it. The empty gut should be clamped on either side of the damaged portion of bowel at a point six inches distant, to prevent the escape of fecal matter at the time of excision or during the subsequent manipulation. A useful instrument for this purpose is the McLaren clamp (see Figs. 1 and 2) or strips of gauze may be used for the same purpose. The general peritoneal cavity should be protected with sterilized pads wrung out of hot saline solution. The portion of the intestine to be removed is excised by means of a V-shaped incision, having its apex in the mesentery and its lateral borders on either side of the diseased area (see Fig. 3). The mesenteric vessels are tied

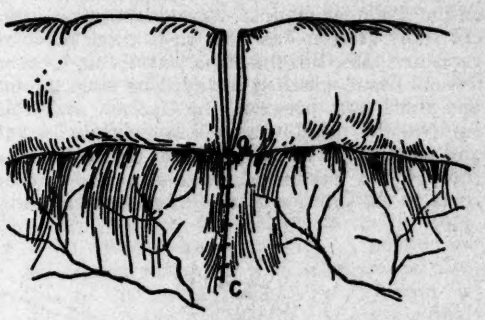

FIG. 4.
C, C, incision in mesentery united by interrupted sutures.

before being cut, by passing a needle armed with catgut around them and tying them. The wound in the mesentery is closed by means of interrupted sutures (see Fig. 4). After the divided ends of the intestine have been carefully washed with hot saline solution followed by a small quantity of a fifteen-volume solution of hydrogen dioxide,

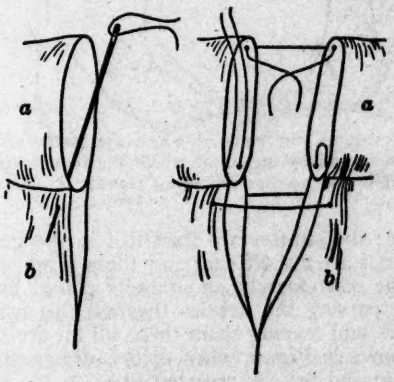

FIG. 5.
A, A, segments of bowel; *B, B,* segments of mesentery.

the proximal and the distal ends are united by means of two sutures which are passed through all the intestinal coats. The first suture is placed at the inferior or mesenteric border and is passed in such a manner as to include a portion of the mesentery on both sides, as shown in Fig. 5; it is then tied in the bowel and the ends are left long in order that, by means of it and the next suture to be inserted, the intestinal tissues can be

held in place while the other sutures necessary to complete the union are being put in. The second suture is placed directly opposite at the highest point of the superior border and after it has been tied its ends are left long and are held by an assistant, as are those of the first suture; thus the intestinal tissues to be united are held in place while the other stitches are being passed; the third suture is passed for convenience in holding the parts together midway between the first two and in a similar manner, its ends, however, being cut short after it has been tied; three other sutures are passed in the same way through the intestinal tissue which is included between the first and third and between the second and third sutures, the needle going from within outward and piercing all of the intestinal coats, then back through the peritoneal, muscular and mucous coats to the interior of the other segment of the

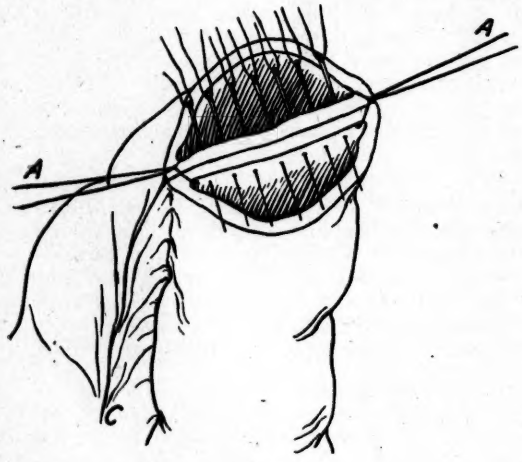

FIG. 6.

A, A, sutures, the ends of which are temporarily left uncut and by means of which the tissues are held, while the needles are being placed. *C.* mesentery.

bowel; the sutures are then tied in the gut and the ends are cut off short; or these seven sutures can be conveniently and rapidly placed by partially passing the needles through the intestinal tissues and leaving them there till all are passed as shown in Fig. 6, when each is drawn through in turn and the sutures are tied.

When these nine stitches have been placed and tied, half the circumferences of the divided bowel ends have been united, and the process of suturing can be most conveniently carried on by next placing a suture half-way up on the ununited side, leaving its ends long and using them to hold the tissues while the parts are sutured as before. This suturing of the parts is continued till the last one is to be placed, when a Lembert suture is substituted. If the sutures have been properly placed about one-eighth of an inch from each other and from the edge and have been tied sufficiently tight, it will be found that the peritoneum is turned in and that the stitches—with the exception of the last one—are not visible (see Fig. 7). If some of them have been so loosely tied that the sutures can be seen on the

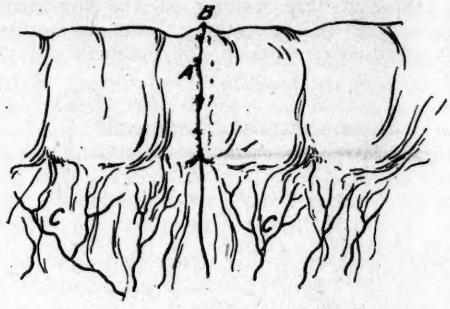

FIG. 7.

This figure shows the intestine after the completion of the anastomosis. *A,* line marking the point of union between the ends of the bowel, showing that the peritoneal coat is well turned in, and that the sutures and knots are all inside the gut with the exception of the last, for which a Lembert suture at *B* is substituted.

peritoneal coat, it is best to insert a few Lembert sutures at these points. Before tying the last one or two sutures it is well to introduce into the gut one or two ounces of a saturated solution of the sulphate of magnesium in order to insure the early action of the bowels. The sutured portion of the bowel should then be washed with a small quantity of a fifteen-volume solution of hydrogen dioxide, then with saline solution, and returned

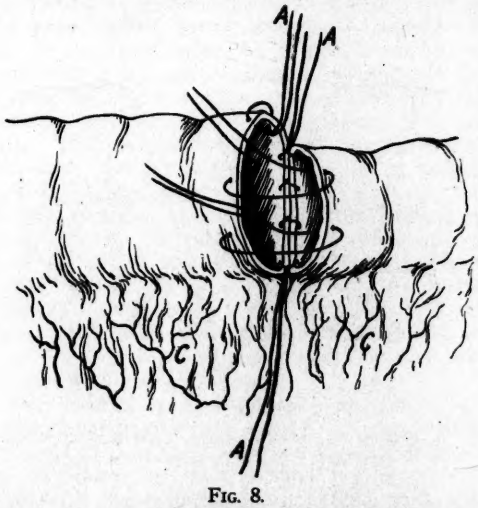

FIG. 8.

A, A, A, sutures, the ends of which are temporarily left uncut. *C, C,* mesentery.

into the abdominal cavity, which should also be washed and filled with saline solution before the abdominal wound is closed.

By the method of suturing just described any portion of the intestinal tract can be united to

any other portion. Anastomosis of segments of ileum and colon may be effected by this method in the following manner: A suture is passed through all the coats of the greater and lesser intestinal segments at their mesenteric border, care being taken to adapt the border of either segment to the corresponding border of the other; this suture is tied and the ends are left long; a second suture is passed through the side

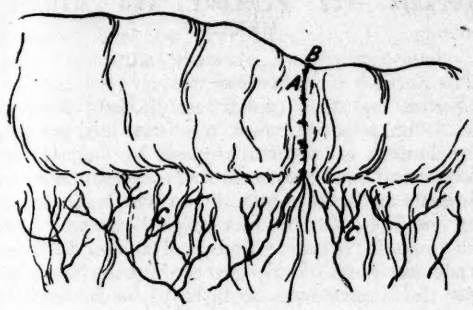

FIG. 9.

Diagram showing the united segments of the colon and ileum. *A*, line marking the point of union between the ends of the bowel, showing the peritoneal coat well turned in and that the knots of sutures are all inside gut, except the last one, at point *B*, which is of the Lembert variety.

of the larger segment, starting from the lumen at the point where the superior border of the smaller segment touches it and through which the suture is also passed, and is tied, the ends being left long; a third suture is passed through all the coats of the highest free end of the larger segment. The location of these sutures, which

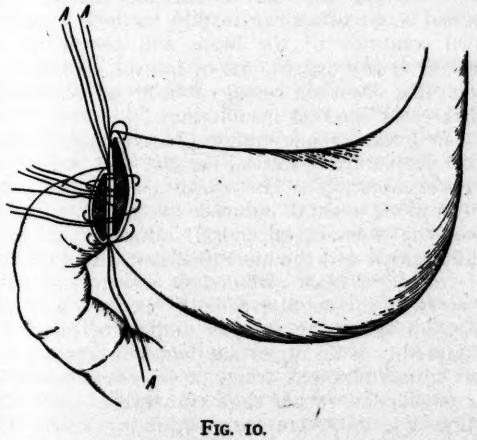

FIG. 10.

A, A, A, sutures with ends left long, uniting the cut surfaces of the stomach and duodenum.

are also used to hold the parts in apposition while the other sutures are being passed, and the accurate adaptation of the mesenteric border of the segments are shown in Fig. 8. The other necessary sutures to unite the divided intestinal edges are placed in the manner already described and the anastomosed bowel ends appear as shown in Fig. 9.

Gastroduodenostomy or Gastroenterostomy.—Prior to the performance of operations on the stomach, the patient is deprived of food for two days and the stomach is cleansed by several irrigations with an antiseptic solution during this interval. The patient is then anesthetized and the abdomen opened by means of either a transverse or a longitudinal incision. Fig. 10 shows how the duodenum may be united to the stomach by means of this method after pylorectomy.

Owing, however, to the partial fixation of the duodenum, when the disease is extensive, it is better to anastomose the jejunum to the stomach at the point of its greater curvature. Gastroenterostomy is performed as follows: A portion of the jejunum, as close to the duodenum as possible, is drawn out of the abdominal cavity, emptied of its contents and clamped. A portion of the greater curvature of the stomach is also drawn into the wound and the jejunum is brought into contact with it. A longitudinal opening, an inch and a half long, is then made in the superior border of the gut. The corresponding opening in the stomach should be an inch above the greater curvature and parallel to it, as shown in Fig. 11. The extreme ends of

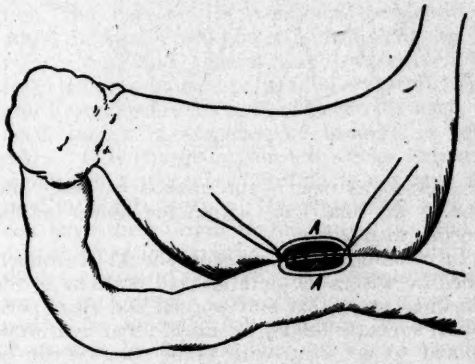

FIG. 11.

A, A, opening in the stomach in line of the greater curvature, and in the longitudinal axis of the upper end of the jejunum.

these wounds are now united by sutures passed through all the coats of the stomach and intestines and the sutures are tied, the ends temporarily being left long. This accomplished, the openings are sutured in the manner already described, the needle passing through all coats of the stomach and bowel, with the exception of the last one or two which must be of the Lembert variety.

J. Gregory Connell of Chicago, in the course of a valuable article entitled "Intestinal Sutures," published in the *Philadelphia Medical Journal* for January, 1899, described a slight modification of the operation, which consists in substituting the loop stitch, with which the mesenteric border of the divided intestine is

united, for the circular one employed by the writer, and in drawing the ends of the last suture down through the lumen of the gut to the outer side of the lower segment, for the purpose of tying them and placing the resulting knot on the inside of the lumen of the bowel by means of a threaded needle inserted in the space between two of the sutures at a point opposite the suture to be tied, as shown in Fig. 12.

Both of these changes in detail, are, in the writer's opinion of no practical import, especially the last, for it would appear to be necessary, after separating the united tissues by passing the needle from the outside of the bowel into the lumen between them, to bring them into close approximation again by means of a Lembert suture, otherwise leakage of the intestinal contents might occur at this point. Of his work, Connell says in his paper already alluded to, "All that can

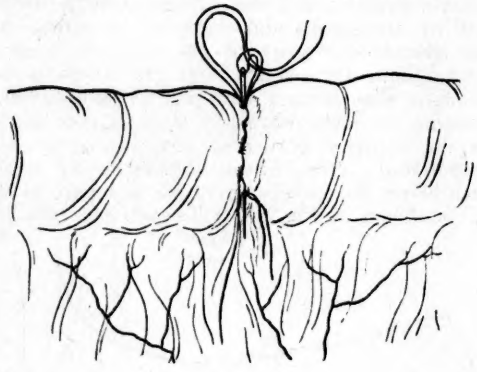

FIG. 12.

be claimed as new is the method of tying and placing the final knot within the lumen on the mucous membrane."

In conclusion, the surgeon should remember, when he wishes to unite severed portions of the intestinal tract, that only normal and clean peritoneal surfaces should be united; that hydrozone diluted 50 per cent. with saline solution can be safely used to disinfect the peritoneum; that when employing the Lembert suture the needle must be made to include some fibers of the submucosa; that special care must be exercised in approximating the mesenteric borders of the intestine to include a portion of the mesentery; that there is no danger of cicatricial contraction following end-to-end union of divided intestinal ends; that there is no objection to the placing of secondary sutures in intestinal tissue when for any reason it seems necessary to do so; that the formation of intestinal adhesions can be prevented by leaving behind in the peritoneal cavity a quantity of saline solution when closing the abdominal wound; that ordinarily there is less danger to the patient in closing the abdominal wound after suturing the gut than in leaving the wound open and surrounding the injured parts with gauze packing; that union of the parts under favorable conditions is effected in about sixty hours; that a simple procedure by means of which an intestinal anastomosis can be easily effected, and which is adaptable to all parts of the intestinal tract, requiring in its performance only a few round sewing needles and suture material of either horsehair or silk, is decidedly preferable to methods necessitating the use of specially constructed instruments.

55 West 36th Street.

HYSTERIA, ITS ETIOLOGY AND MANAGEMENT.[1]

BY JOSEPH M. AIKIN, M.D.,
OF OMAHA, NEB.

SINCE the days of earliest thought hysteria has commanded attention by all civilized peoples. The name is an unfortunate one, as it designates a condition found in both sexes, denominated by Moebius as "a state of mind in which ideas control the body and produce morbid changes in its functions." This definition is, I think, the most exact and lucid of any given. During centuries past the disease was thought to be confined to females alone, the old theory being that the womb was the sole cause of the disorder; modern medical research has clearly shown its clinical parallel in the male, though it is more frequent in females. It is most likely to appear between the ages of ten and twenty-five years, but does occur in children of tender years, and may make its first appearance in persons past middle life.

By our definition the mental nature of the person is implicated. The physical body, composed of bone, muscle and nervous tissue, becomes impaired in one or all of these parts. If in the latter, we see failure of proper nerve function either in the sensory or motor realm. Also, since the brain is the supreme controlling center of the nervous system and the seat of mental acts too, we can readily see how a weakened condition of the brain will permit, to a greater or less degree, loss of control. It follows, then, that "hysteria belongs to a group of mental diseases of cerebral insufficiency."

The great French author Charcot said, "Hysteric people are hysterical because they are mental degenerates." The cause may be due to physical or mental influence or both. Of the two, the mental and moral influences are the more potent and the more frequent. The period of transition from girlhood to womanhood and that from the regular monthly periods to their cessation initiate the greater number of cases.

Heredity is an important factor in causing it; but transformations from, or to, other neuroses or psychoses, rather than transmissions of the same disorders, are very common. Certainly all fair-minded persons agree that the nervous structure in the female is more delicately organized than in the male; it of necessity follows, then, that she is more susceptible to physical and mental influences acting to disturb her physiological plane of acting, thinking and speaking.

[1] Read before the Elkhorn Valley Medical Society, Norfolk, Neb., January 7, 1902.

Injuries, fright, worry, grief, any incident in life's battles, may overbalance the unstable nervous system. The mental activities of great success in business, school work, invention, or social position, often overbalance the person whom, up to this time, we had believed to be of healthy and well fortified nervous strength. Disappointed affection is a cause for hysteria. God created woman for love, home, and motherhood; she best answers the natural desires of her whole self when she bestows her conjugal affection; her nervous and mental systems are exercised to their highest tension in their most delicate structures at such times. Then, let defeat arise and she has not sufficient nerve strength to change her current of thought to another and rational channel. She is like the horse when the driver is unseated, who will, under the excitement of the occasion, make all manner of false and misdirected movements, finally losing the race and wrecking himself unless soon placed under control of his master. Let success crown her efforts, and she is sometimes so elated that her mental control is lost. She had used her entire reserve strength in gaining the goal, and could not make further progress. In either case the nervous and mental systems had been brought to their highest degree of action, and the ability to control beyond that point was wanting.

I have cited these extreme cases to correct a popular but erroneous impression that if an hysterical person only *would*, they *could* wholly control their actions. They can to a certain extent only, just as you or I can suffer bodily pain or endure grief yet continue our duties and the world be none the wiser; if we have the reserve strength in that department of our physical, mental, or spiritual economy, we can do so; otherwise, we fail.

Conditions in society create many hysterics. Restrictions placed upon children, especially girls, preventing fredom of dress and the outdoor romping in the sunshine and fresh air throughout their growing period is but generating nerve force that will find vent through some channel. Depriving young life of its God-given privilege to physical perfection as Nature has ordained, necessarily produces a lack of balance in the physical and mental natures.

Small wonder it is when the girl who has been taught daily from infancy to graduation that her book education is of first consideration should become a dependent nervous wreck. Such girls pass from school to matrimony more imperfectly prepared for their duties as wife and mother than their servants in the kitchen. Education is a miserable failure that neglects to develop the physical equal to, if not in advance of, the mental.

Hysteria is not a disease with known pathological changes caused by germs, like pneumonia, typhoid, scarlet fever, or measles, nor is it a sepsis such as we see resulting from infection in wounds. It is a condition consequent upon a lack of balance between the physical and mental natures. The spoiled child is a most fertile field for an hysterical adult.

In hysteria we have sensory, motor, and mental symptoms. The sensory are marked by oversensitiveness and diminished sensations, the latter predominating. These anesthetic areas are not permanent, and they do not follow the anatomical distribution of a nerve. The loss of sensation may be cutaneous only, or located in the deep tissues. Certain senses, as taste and smell, are often perverted. Hearing and sight, too, are diminished, but seldom lost. It is noticeable that hysterics are not aware of their anesthetic areas. Oversensitiveness is quite common. Neuralgic pains and other sense disorders are complained of, but seldom definitely located; and if located are cited in a new spot an hour later.

Motor symptoms are characteristic. They are retarded—that is, the patient does not react to her mental suggestion for action so quickly as is her normal response. It is closely allied to anesthesia in its retardation. If we can divert the patient's attention from self, we can get more rapid movements. Sometimes a rigidity of the muscles is markedly present. The mental symptoms are impaired memory and will power. The amnesia is due to the want of mental concentration, the outcome of volitional enfeeblement, while the loss of will power is manifested by impulsive acts and general want of self-control; forgetfulness causes contradictory statements and hysterics are accused of deceit; it may, indeed, lead to a suspicion of insanity in some cases. It is charged against hysterics that they simulate for pleasure, but this is not true except in slight degree. The simulation and deceit have their origin in misconceptions and in misconstrued impressions, or from the failure of the impression to reacn the field of consciousness for its application. Convulsive seizures are very much like epilepsy, but hysterics do not hurt themselves by falls or other accidents common to epileptics. Clownish contortions of the body are manifested in extreme cases. During these clownish acts, rage, joy, and other emotions may modify the attacks and attitudes. Smothering attacks like fainting with the eyes rolled back, respiration slowed with the face pale, occur, while the patient sinks down as if dying.

Motor accidents, like paralyses and contractions, occur. The paralyses of hysterics are ushered in suddenly by some emotional disturbance, and they are as quickly vanished when the attention has been diverted. These sudden transitions cause us to assert that the patients can but will not control themselves.

Sensory accidents are sudden headaches and other painful sensations that are of sudden onset and just as quickly pass away. Visceral symptoms are many and varied; the patient suddenly loses her voice or can only speak in a whisper. A laryngeal spasm will sometimes cause suffoca-

tion like croup in a child, but patients do not die in these conditions. Suppression of urine will alternate with a profuse discharge of very light-colored urine; changes in the chemical proportions of the urine are common but not constant. A continued remittent or intermittent fever is occasionally found in hysterics; there are recorded cases in which it has arisen to 105 to 110° F., and we may thereby be led to mistaken diagnosis. There are other symptoms to account for the fever if the case be not purely hysterical.

The cause of hysteria is always chronic. Many patients get instant relief under certain mental and moral influences. The diagnosis is not so difficult if we will remember the distinguishing marks from neuresthenia, emotional disturbance and wilfulness on the part of the patient.

Management must be directed mainly to a control of the mental nature of the patient. A careful, systematic and persistent effort in repairing the nervous system is necessary, that stability may be secured and maintained. Treatment must be general for the disease and special as applied to each individual according to his or her characteristics. This can be accomplished only by a painstaking and persistent study of each case. We must analyze and know the potential of physical, mental and spiritual power in the individual; then confidentally apply the material, psychic, or spiritual therapeutics indicated.

Rational medicine sees each person as differing from every other individual, both actually and relatively, in the exercise and control of his three natures. The fact that the clinical picture of many hysterics embraces symptoms from these three natures must, reasoning from effect to cause, lead us to the correction of defects when they exist. So broad is the domain of rational medicine that every "pathy," past, present, or to come, is but the evolution of a grain of truth surrounded by much untruth.

STONE IN THE FEMALE BLADDER. REPORT OF A CASE.

BY H. H. STONER, M.D.,
OF HIGHMORE, S. D.

THAT the formation of calculi in the female bladder is of infrequent occurrence will be attested by everyone who has practised medicine or surgery for an extended length of time. Many practitioners have gone through life without having encountered this condition, and the foremost surgeons and gynecologists have only occasionally met with it. The reason of the infrequency of stone in the female bladder is to be found in the shortness and large caliber of female urethra.

The etiological factors which originally contribute to the formation of stone in the male bladder are certainly equally present in the female urinary apparatus. Thus, renal calculi pass from kidney to bladder through the ureters fully as often in women as they do in men, but in the female it does not encounter the same difficulties in making its escape from the bladder as it does in the male. In the former case the distance to be traversed by the stone does not exceed two inches through a straight canal, the diameter of which is nearly three-eighths of an inch; in the latter case such a stone must pass through a tortuous route, eight or nine inches in extent, with a caliber of scarcely one-fourth of an inch. It should excite no wonder, then, that vesical calculi are found much more frequently in the male subject. Stones the nuclei of which are composed of inspissated mucus form as often, no doubt, in the female bladder as in that of the male, but for the reasons already ascribed they more readily make their exist unknown to the host. If the same difficulties were opposed to the escape of vesical calculi in the female as in the male urethra, we should as often find them in women as in men, but such is not ordinarily the case.

In nearly all the recorded cases of calculi in the female bladder the cause has been assignable to foreign substances introduced from without, such as hair-pins, pencils, catheters, crochet-hooks, chewing-gum—in fact, anything small enough to slip into the urethra. These constitute the nucleus around which the salts of the urine are deposited and the formation of a stone becomes possible. Kelly reports having twice operated for stone in the female bladder which was occasioned by the deposit of urinary salts around a suture left *in situ* after the closure of a vesicovaginal fistula. The symptoms of stone in the female bladder do not differ materially from the same condition as it affects the male bladder. There are the same paroxysmal vesical tenesmus, frequent urination, and symptoms of severe cystitis. Under ordinary circumstances sounding the female bladder offers no difficulties, and the detection of the stone by this means is easily accomplished.

There is but one way in which relief from this condition can be effected, and that is the removal of the offending calculus. Three methods offer themselves, *viz.*, litholapaxy, suprapubic cystotomy, and cystovaginal incision. In making a selection from these operative procedures in a given case, one must be governed by the particular factors which go to make it up. To remove even a small stone through the urethra without first crushing it is poor surgery, for the damage to the mucous membrane likely to be sustained in dragging a jagged-edged stone through the urethra is likely to be greater than would be either of the cutting operations. In cases in which the urethra can be sufficiently dilated to admit easily a lithotrite, and if the operator be sufficiently adept in its manipulation, litholapaxy is probably the ideal operation. There is this disadvantage in this procedure, however, that unless one be skilled in handling the instrument one is liable to include a portion of the mucous membrane of the bladder in the grip of the lithrotrite and thereby do much damage. Moreover, one can never be absolutely certain that every particle of calculus has been removed. If for these, or any other reason the crushing operation be not chosen, recourse must

be had to either suprapubic or vaginal cystotomy. For a very large stone, the suprapubic route should be taken, as this offers practically an unlimited amount of room through which to extract the calculus. The technic here does not differ from that for the same operation in the male. The removal of stones of one inch or less in diameter, if not done by litholapaxy, is best effected by means of vaginal cystotomy. The incision should be begun just in front of the cervix and carried a sufficient distance forward to permit of easy extraction of the calculus. Whether or not the incision shall be closed will depend altogether upon the degree of inflammation present. If the bladder be highly inflamed, the incision should be left open to permit of continuous drainage for a few weeks. Usually after four or five weeks' time it will close of its own accord, by which time the inflammatory condition will have subsided. If there be not a high degree of inflammation, the incision had better be closed with silkworm gut or silk sutures, passed through the mucous membrane of the vagina only and not less than one-fourth of an inch apart. A catheter should be placed in the bladder and allowed to remain about six days, when it can be removed, at which time the line of incision will be found strong enough to stand any ordinary strain. The bladder should now be emptied every two or three hours until the sutures are removed, which should not be earlier than the twelfth day.

The interest in the case which I am about to report centers about the etiological factors which produced the calculi, and the conditions which permitted of but one course of procedure for their removal.

Mrs. S. H. H., sixty-five years old, rather corpulent and a chronic asthmatic, consulted me in June, 1901, for an inveterate cystitis of two years' standing. Excessive tenderness of the genital organs and a sense of false modesty forbade more than a cursory examination at this time. As the urine was decidedly alkaline, I prescribed for this condition without promising any success. She returned on November 28, 1901, with a history of having obtained only temporary relief from the treatment prescribed. She was now willing to submit to any form of examination I might exact. She had at this time lost practically all control of the vesical sphincter, and was forced to urinate every few minutes, which act was accompanied by excruciating pain. She was indeed in a pitiable plight. Examination revealed a large ventral hernia in the median line about two inches above the pubic bone, the opening in the abdominal wall being about one and one-half inches in diameter. There was a complete rupture of the perineum involving the sphincter ani muscles; the uterus was completely prolapsed, hanging outside the vagina; on the anterior vaginal wall was a cicatrix which marked the site of a previous slough. Upon attempting to pass an ordinary No. 12 (English) metallic catheter, a stricture was encountered just within the meatus which prevented its farther passage, and a smaller size was tried with no better success. At last, with a small uterine sound and after the exercise of much patience, I succeeeded in sounding the interior of the bladder. I could now plainly feel the unmistakable grate of a vesical calculus. Upon being informed that the only hope of relief lay in the extraction of the stone, the patient readily consented to operation. In this case there was no choice of operative procedure; the only alternative was to do a vaginal cystotomy. The ventral hernia precluded the possibility of doing the suprapubic operation, and the stricture of the urethra was of such extent as to prevent its dilatation to a caliber sufficient to admit a lithotrite. I was, therefore, driven to the vaginal operation. On December 3, 1901, under chloroform anesthesia, skilfully administered by Dr. W. H. Lane of Miller, S. D., I did a vaginal cystotomy. After vainly endeavoring to introduce a No. 8 (English) sound as a guide upon which to cut, I was compelled to resort to the uterine sound already mentioned. After having introduced this instrument into the bladder, I made a vesicovaginal incision about one and one-half inches in length, through which I removed three calculi, aggregating in weight six drams, the largest weighing two and one-half drams. After thorough irrigation of the bladder through the wound, and when the oozing had completely ceased, I closed the incision with silkwormgut sutures. I would insist upon the cessation of all oozing prior to the closure of the incision, as otherwise, clots of blood within the vesical cavity may produce so great vesical tenesmus as to compromise seriously the holding of the sutures. A No. 4 (English) metallic catheter was tied into the bladder and was left *in situ* six days. A soft rubber catheter would have been used, but for my inability to introduce it through the strictured portion of the urethra which extended fully one-half its length. The bladder was daily irrigated with boric-acid solution while the catheter remained in position. At the end of twelve days the sutures were removed and union was found to be complete. At the time of her discharge, two weeks later, the patient was urinating naturally about every two hours during the day and somewhat more frequently during the night. I shall as soon as she has recovered her former health, begin a systematic dilatation of her urethra.

The principal cause which contributed to the formation of the calculi in this case was undoubtedly the strictured condition of the urethra. This must have occurred in consequence of the terrific injury she sustained many years ago during childbirth. The cicatrix incident to the sloughing process which included the urethra so narrowed this canal that a calculus sufficiently small to traverse the ureter could not pass out through the urethra. Such a condition could hardly have eventuated otherwise than in the formation of a vesical calculus.

Sanatorium Burned.—Dr. Heron's sanatorium at Lakewood, N. J., was destroyed by fire on June 10th. The uninsured loss is estimated at fifteen thousand dollars.

MEDICAL PROGRESS.

MEDICINE.

Tetany in an Adult.—The statistics collected by Gowers and others show that tetany is more common in males than in females, is most frequent during the first two decades of life, and is very rare after the fortieth year. The disease is relatively infrequent in America, but Griffith was able in 1894 to collect 72 cases in the United States. A case is now reported by E. A. LOCKE (Boston Med. & Surg. Jour., May 8, 1902) which is of especial interest because of the presence of polyuria and albuminuria during the attack. The patient first noticed occasional cramps in the hands and forearms, with sensations of tingling and numbness, but without malaise, headache, nausea or vomiting. One day severe cramps were felt in the hands, which were holding a hammer at the time and could not be released. The cramps then attacked the muscles of the loins, and finally those of the legs and feet. The patient felt agonized, dazed and stupid; the affected muscles were hard, board-like and slightly tender. Various sets of muscles were involved either simultaneously or successively, each spasm lasting from a few seconds to ten minutes. Hot applications could be borne without pain, indicating a moderate degree of anesthesia. Applications of hot cloths and vigorous massage gave much relief after three-quarters of an hour. Second and third attacks occurred after intervals of three and four years respectively. During an attack the head was drawn to the left, fingers adducted, wrists flexed, forearms flexed and internally rotated, arms adducted and held firmly across the chest; thighs, legs and feet flexed, toes extended and abducted. There was tonic contraction of the muscles; no fibrillary twitching. Trousseau's sign (spasms induced by pressure on large nerve-trunks) showed strikingly. All commonly recognized causes were lacking, *i.e.*, gastro-intestinal disturbances, removal of thyroid, pregnancy, acute fevers, toxic conditions, epilepsy. The patient was accustomed to hard muscular work, suffered exposure to rapid changes of temperature, and was addicted to alcohol.

A Method of Investigating the Gastric Function.—In determinating disturbances of gastric function clinicians have heretofore been content to diagnose conditions of hypersecretion and hyposecretion and of increase or diminution of motility. This simple classification of cases does not suffice, according to SAHLI (Berl. klin. Woch., Apl. 28, 1902). The tendency to ascribe all cases of hypersecretion and hyperacidity to disturbances in motility or even to obstruction of the pylorus is dangerous, since it frequently has led to the recommendation of gastro-enterostomy when the latter was not at all indicated. Sahli has devised a method for the more accurate and searching examination of states of gastric function, by means of which he has been able clinically to differentiate the following groups of cases: (*a*) Cases with good motility: (1) Hypersecretion, hyperacidity and hypermotility; (2) hypersecretion, hypacidity and normal motility; (3) normal quantity of secretion with hypacidity and hypermotility; (4) hyposecretion, hyperacidity, normal motility; (5) hyposecretion, hypacidity with normal or increased motility; (*b*) Cases with lessened motility; (6) Hypacidity, hyposecretion, diminished motility; (7) anacidity, hypersecretion and diminished motility. The therapeutic procedures following such searching diagnosis as these can be directed far more intelligently than was possible under the broader and less accurate diagnoses which have hitherto been accepted as satisfactory. It can be ascertained clearly whether efforts to influence motility are desirable and how far they succeed when tried; the indications for and effects on secretion of belladonna preparations, alkalies, etc., can be observed, and valuable use can be made of beef-extracts, bitters, etc., for directly or indirectly influencing the secretion of the stomach.

Tetanus following Vaccinia.—The interest which this subject has lately aroused is clearly considered in a very complete and exhaustive paper by R. N. WILSON (Jour. Am. Med. Assoc., May 10, 1902). From a study of 52 authenticated cases of tetanus following vaccination he advances the following conclusions: Infection took place in most, if not all cases at the site of the vaccination. The grouping of a large number of cases in a certain locality, and following the use of a certain production of vaccine virus, would tend at first sight to speak for a primary infection carried in with, or by means of, the virus into the system. One finds, however, that a secondary infection is indicated by the otherwise discordant chronic incubation period and acute symptoms, by the almost uniformly fatal termination, by the severity of the course of the disease, by the millions of normal vaccinations with the same virus, by the simultaneous deaths from tetanus known to be due to other causes, by the diminution in the number of such cases at the present time as more continued aseptic care is generally exercised, by the fact that in every case in which particulars are known overabundant opportunity was offered for such secondary infection, and, finally and most important, by the absolute failure of all bacteriological and inoculation experiments on the lower animals and man to indicate the presence of the tetanus bacillus or its toxins in the virus. It would seem that the glycerinated virus, as well as the vicious influence of the shield, was disposed to present a more extensive ulcerative surface and a greater tendency to sloughing than the dried virus or the arm-to-arm method. The latter is impossible at the present day and it may become necessary to find a substitute for the glycerin or to use the dry point. The author thinks that there is an individual susceptibility and that the tetanus spores or germs must frequently be present on the skin. He urges the same care for the vaccine wound as for an abdominal incision, and thinks that tetanus after vaccination appears no more inevitable than hemorrhage after the tying of an artery. That vaccine virus could be infected with tetanus no one will deny, but that it has been in the cases reported deserves the full denial that can be given by clinical symptoms and careful scientific study.

Hay-fever.—There are three factors in the etiology of hay-fever, according to A. THOST (Münch. med. Woch., Apr. 29 and May 6, 1902), namely, an extrinsic exciting agent, a local disposition in the mucous membrane of the nose or of the upper respiratory tract, and a general disposition dependent upon a peculiar irritability of the nervous system. In over 400 cases analyzed, the exciting agents proved a great variety of odoriferous flowers, pollen, dust, and many different smells, while in a few such conditions as heat, dry air, change of temperature, mental or bodily fatigue, excess or abstinence from alcohol, were sufficient to induce an attack. Strangely enough, the disease affected people from the same locality at the same time of the year; slight differences occurred only in large cities. The close relation of hay-fever with the flowering of plants is seen in the fact that it is unknown in high altitudes and islands with sparse vegetation, in humid tropical regions and in the north. An examination of the nasal mucus showed only rarely the presence of pollen; this, together with the fact that many predisposed people can snuff pollen directly without harm, makes it seem impossible that the attacks really depend upon this, especially since often the odor alone is sufficient. By

bcateriological examination of the nose a white staphylococcus could be obtained in almost all cases, but experiments showed that this alone could not bring about an attack. Then, again, it seems likely that the various odors alone, purely by their stimulating effect on the nerves, are to be held responsible. The local disease of the nose is generally swelling and edema of the inferior turbinated region, which not only leave the mucous membrane in a more irritable condition but also force the patient to breathe through the upper part of the nose where the olfactory nerve ramifies. More serious lesions, such as old purulent catarrhs, deviated septa, etc., are but rarely encountered. The general disposition to the disease shows itself in the type of patients most frequently affected; these are often mentally active, nervous individuals of the more educated class, and not rarely some previous disease has weakened them and so increased their idiosyncrasy. In England it seems that many have suffered from gout and the epidemics of influenza of recent years have contributed much to increase the frequency. The symptoms of hay-fever are so pronounced that the diagnosis is easy. The first sign invariably is an irritation of the nose and eyes; following this the ears and the deeper parts of the respiratory tract become involved. With advanced age the disposition seems to decrease and serious results never follow; indeed, there seems to be a certain antagonism toward tuberculosis. The disease can be relieved and even cured, although a specific does not exist. A large number of patients were benefited by local applications of cocaine, eucain, menthol and formin, and lanolin seems to be especially soothing. Light massage of the nose and adjacent regions and the inhalation of a number of aromatic drugs are followed by relief, as is also the application of trichloracetic acid and the galvanocautery. It is important that such local treatment be not carried out at the beginning of the attack. Of internal remedies, the bromides, codeine, morphine and chloral were employed, and in a few cases belladonna and valerian. Good and bad results were seen in an equal number after quinine; a little more satisfactory were the iodides except in those instances in which they themselves caused a coryza. Atrabilin, a suprarenal preparation, had no effect. The best remedy in all cases proved to be a change of climate during the critical period.

Diagnosis of Pleural Effusions.—It is well known that it is sometimes impossible to diagnose pleurisy with effusion by means of physical signs, which fact goes to show that methods for examining the chest are not yet perfected. The percussion of Traube's semilunar space gives valuable assistance for the left anterior parts, since here fluid will sink below the normal limits of the lung and will cover the normal stomach tympany. A. VON KORANY (Wien. klin. Rundsch., Apr. 20, 1902) thinks that by means of auscultatory percussion fluid situated elsewhere may be readily detected. He places the index finger of the left hand perpendicularly with its tip against the surface of the body and percusses against its flexed second joint with the extended index finger of the right hand. A sudden change in intensity and character of the sound will always be noticed on percussion when the organ over which the stethoscope is placed is no longer parietally situated, and the same holds true for collections of fluid. The determination of the lower limit is of most importance, since in effusion this follows the course of the pleural sinus, while in the case of dulness due to the lung this never reaches down into the complementary spaces of the pleura.

Blood-pressure in Chronic Nephritis.—By means of Gärtner's tonometer, E. VON CZYHLARZ (Wein. klin. Rundsch., Apr. 20, 1902) tested the blood-pressure in a number of cases of chronic nephritis. He found that in many there was an undoubted lowering of arterial tension when rest was enjoyed and the usual restrictions of diet were adhered to. This phenomenon was not accompanied by any symptoms referable to heart-weakness, so that it must be looked upon as a relative improvement. At the same time the disappearance of subjective symptoms, such as headache and vertigo, shows that they are dependent upon the increased arterial tension.

Pancreas and Diabetes.—An interesting contribution to the relationship between diabetes and lesions of the pancreas is given by J. TESCHEMACHER (Münch. med. Woch., Apr. 22, 1902). The patient had sustained a severe trauma which could be brought into etiological connection with a very slowly-developing cyst of the pancreas, for which he was operated on eight years later. At that time polyuria with albumin, but no sugar, in the urine could be determined. Eight years later he again presented himself for treatment, again suffering from a decided glycosuria with its symptoms. The tumor did not recur. No doubt the trauma had started an interstitial process, very slowly progressive, which finally, however, caused so much destruction of tissue that sugar appeared in the urine.

Painful Areas in Cholelithiasis.—There are three distinct areas in which pain exists or in which tenderness may be elicited in cholelithiasis or its complications, according to S. BOAS (Münch. med. Woch., Apr. 15, 1902), namely, the hepatic edge of the gall-bladder region, the subcostal part of the liver and the dorsal surface. The hepatic free border may be painful *in toto* or more particularly in the neighborhood of the gall-bladder, or the latter alone may be tender. In the great majority of acute cases of cholelithiasis the entire edge is painful to touch, while in the free intervals the pain is more localized at its point of origin. It is also in the acute attack that the subcostal surface is most often found sensitive, sometimes in its entirety, sometimes only in its lower portions. Finally, the dorsal area may be found tender at the level of the two lower dorsal and the upper lumbar vertebræ from 2 cm. to the right of the vertebral column to within the posterior axillary line. Careful palpation must be practised and when the tenderness is equally marked on both sides or higher up or lower down, no diagnostic value should be attached to it so far as gall-stones are concerned. The importance of the dorsal tenderness lies in the fact that it is often present long after the acute attack, and in latent cases or in cases without icterus, in which the diagnosis otherwise would be difficult. An excellent method to test the degree of tenderness of the various areas is by means of electrodes. In conclusion, the author mentions various conditions which frequently resemble gall-stone colic; these are ulcer of the duodenum, enteroptosis with displaced right kidney, hyperchlorhydria, and intestinal neurosis.

Transmission of Tuberculosis.—There are three possible ways in which a person may become tuberculous, namely, by heredity, through the milk of tuberculous cows, and by inhalation of infected sputum. Though experimentally proven, little importance is to be attached to the transmission from parent to offspring; as evidence of this may be cited the several thousand guinea-pigs kept in the Pathological Institute of Kiel, which are all healthy though they sprang from animals which were experimentally rendered tuberculous. A. HELLER (Münch. med. Woch., Apr. 15, 1902) takes exception to the recent statement of Koch that human and bovine tuberculosis are not closely allied, for he has found a large percentage of intestinal tuberculosis in children fed upon cow's milk and cites an interesting case in which an attempt was made to

eradicate tattoo-marks by means of injections of milk and in which subsequently lupus developed over the areas so treated.

SURGERY.

Leucocytosis in Suppuration.—The value of the white-cell count in suppurating processes, especially in cases of appendicular abscess, has been recently emphasized. M. WASSERMAN (Münch. med. Woch., Apr. 29 and May 6, 1902) observed cases with favorable outcome which were not operated on and in which, in spite of apparently severe clinical symptoms, the leucocytes were generally increased temporarily or throughout the course, but were always below 25,000. In a small number an abscess existed without marked leucocytosis; these, however, formed the exception, for in the great majority, when pus was present and an operation indicated, 25,000 was reached and exceeded even when the temperature and pulse were low and the general condition was good. The great value of the blood-examination thus is evident and it, with the temperature and pulse, forms a triad of symptoms essential for the diagnosis of appendicular abscess. The author continued his researches in a number of other conditions; thus, in a case of purulent peritonitis, he found 37,800 leucocytes; in one of ileus following chronic peritonitis, 20,000; while in several patients in whom intestinal obstruction was not due to inflammatory adhesions normal values existed. In strangulated hernia the number of leucocytes was either normal or only slightly increased; in abdominal wounds with hemorrhage there appeared a transient increase. It seems from these cases that peritoneal irritation not depending upon infection is also capable of causing a moderate leucocytosis; this is also evident from the counts made after the removal of the appendix in interval cases. The reactive power of the peritoneum to infection is much greater than that of other parts of the body, for in a great variety of abscesses less than 25,000 leucocytes were always found in the blood and the normal was rapidly reached when free drainage was provided. If, however, the abscesses no longer remain localized and bacteria appear in the blood, the leucocytosis becomes more pronounced; this is also true in erysipelas. Great care must be exercised not to mistake the leucocytosis resulting from other causes, such as cachexia, for that dependent upon pus-formation. No distinct relation between the different pyogenic bacteria and the degree of leucocytosis could be determined.

THERAPEUTIC HINTS.

Suprarenal in Pruritus.—Two cases are reported by F. S. MEARA (Merck's Archives, May, 1902). The first was that of a girl of eighteen who, seized with violent itching of the anus and vulva, rubbed and scratched the parts into a condition of marked hyperemia. A strong solution of suprarenal blanched the parts and stopped the itching for fourteen hours, when a fresh application was made. The parts were dried and puckered but this was overcome by boric-acid ointment, and two months later the itching had not recurred. The second case was that of a married woman in whom the relief was equally prompt, though the treatment had to be repeated some weeks after.

Antitoxin in Conjunctival Diphtheria.—The patient, six months old, had a very adherent, thick, yellowish-gray patch of pseudomembrane on the upper eyelid, moderate prostration and a temperature of 102° F. Smear and culture showed diphtheria bacilli, and 2,400 units of antitoxin were administered. Ice compresses were applied and atropin dropped into the eye. In twenty-four hours the swelling of the eye had much subsided and the temperature had dropped to 100° F., and on the third day the membrane was nearly gone, though it did not disappear entirely until the sixth day. The eye was completely well by the tenth day. Under treatment without antitoxin these cases generally result in destruction of the eye.—L. E. HOLT, in Archives of Pediatrics, May, 1902.

Whooping-cough.—

℞ Tinct. droseræ		
Tinct. grindeliæ.....aa		gtt. xv
Tinct. belladonnæ		
Tinct. aconiti.....aa		gtt. x
Syrupi ..... 20 c.c		(℥v)
Aqua tiliæ.....100 c.c		(℥iij ℥ij)

M. Sig.: One dessertspoonful every two hours.—Le Progrès Médical, Apr. 5, 1902.

Fetid Bronchitis.—

℞ Ac. tannici.....0.05		(gr. i)
Terpini hydrat.....0.10		(gr. ij)
Sod. benzoat.....0.15		(gr. iij)

Place in one cachet. Sig.: One three or four times a day.—Le Progrès Médical, Apr. 5, 1902.

Pyloric Stenosis in Infants.—Medicinal and dietetic measures should always be first employed. The indications are as follows: (1) To overcome the violent pyloric contraction, such drugs as belladonna, bromides and chloral opiates should not be given, as they impair the motor function of the stomach. (2) To treat the secondary gastric irritation. The retained food should be washed out and the stomach rested by rectal feeding for one or more days. When food is again given by mouth, the stomach should be washed out occasionally to remove a possible residuum of undigested food. (3) The diet should consist of food which forms no coagulum in the stomach. Whey, peptonized milk or a mixture of these is good. Cod-liver oil will supply fat and cream may be gradually added. After nursing lay the infant on its right side. Small quantities of food should be given in order to prevent gastric dilatation. These measures failing, resort must be had to surgery.—E. W. SAUNDERS, in Archives of Pediatrics, Apr., 1902.

Nervous Insomnia.—

℞ Camphor monobrom.....0.12		(gr. ij)
Ext. cannabis indicæ		
Ext. hyoscyami.....aa 0.02		(gr. ⅓)

Ft. pil. No. i. Two to five pills a day.—DEBOVE and GOURI, in Le Progrès Médical, Mch. 29, 1902.

Infantile Scorbutus.—An infant of nine and one-half months, fed partly on artificial food and partly at the breast, became pale, thin, cachectic; there were abundant sweating and constipation. A search revealed a subperiosteal hematoma of the femur and swelling of the gums with ecchymoses. COMBY (Le Progrès Médical, Mch. 29, 1902) changed the feeding to fresh boiled milk with the addition of three teaspoonfuls of raisin-juice a day. In a week there was noticeable improvement, and at the end of a month cure was complete. Dalché uses purée of potato, straight milk and lemon-juice for scurvy in infants over a year old.

Thyroidin and Optic Neuritis.—In four women and one man, COPPEZ (Le Progrès Médical, Mch. 22, 1902) has noted the development of an amblyopia following the use of thyroidin for obesity. The symptoms appeared only after a long period of medication, and ceased some time after the thyroidin was stopped. A dog under similar treatment for obesity became almost blind. From the clinical picture the author attributes the amblyopia to a partial retrobulbar cystic neuritis. It is interesting to note that all the patients rapidly lost their fat.

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SATURDAY, JUNE 14, 1902.

THE AMERICAN MEDICAL ASSOCIATION.

THE scientific proceedings of the fifty-third annual session of the American Medical Association will be found very fully reported in the columns of the present issue of THE NEWS.

This year's meeting was especially noteworthy for the high character and practical value of the scientific contributions to the program. A glance at the abstracts of the papers read and their discussion will very soon show this to be no idle compliment but merited praise. There was not a single section which did not have for discussion some important practical questions that are almost constantly before the general practitioner for solution. The outgoing officers of the Sections certainly deserve the greatest possible credit. They have set a standard that will be an incitement to emulation, while at the same time marking the high-water-mark of achievement.

Dr. Dock's contribution on the first day to the Section on the Practice of Medicine will be a landmark in the American study of animal parasites of human beings. The discovery of amebæ causing dysentery in a patient who had never been outside the State of Michigan and who had not been in contact with soldiers returned from campaigns in Cuba, Porto Rico, or the Philippines, shows that these parasites are probably pathogenic over most of the United States. Certainly the climate of Michigan does not present any features that would encourage the survival of a presumedly tropical parasite, so that it seems that amebæ may live and prove actively causative of intestinal conditions anywhere in the temperate zone. It is not improbable that many of the supposedly simple dysenteries observed in various parts of the Northern States are really due to amebæ. We published recently in THE MEDICAL NEWS an account of five cases of liver abscess in which the active pathogenic agent was the ameba. None of the patients had been in the tropics. In the discussion of Dr. Dock's paper an additional series of cases of amebic abscess of the liver was reported, all the patients having a history of prolonged continuous residence outside of the tropics. It is evident then that the amebæ as a pathogenic agent must be assumed to be endemic in the temperate zone and suspicious cases should be carefully studied with this idea in mind.

The symposium on chronic nephritis in the same Section brought together many very practical thoughts and suggestions.

In the Section on Surgery, besides discussions of biliary and pancreatic surgery, the ever-renewed subject of appendicitis received due consideration. In the Medical Section one of the most conservative of medical clinicians announced his conclusion that, whenever there is assurance that appendicitis is really present, operation should be advised. The only indication for medical care is to carry the patient over from the acute stage to a subsidence of the symptoms that makes the condition more favorable for operation. It is evident that physicians and surgeons are at last drawing together on this much discussed subject.

The Section on Children's Diseases discussed especially the timely subject of milk and infant feeding in a way that will make the report of the sessions of current interest.

The social features of this meeting were well calculated to furnish very pleasant relaxation for those in attendance. The number of members registered this year was not as large as for several years past, but the lack in numbers was compensated for by the interest evinced by all. Rarely have Section meetings been so faithfully attended.

It is understood that the question of medical reconciliation in New York has taken on a very

favorable aspect. The character of the committee which has in charge the reconstruction of the code of ethics of the American Medical Association is a guarantee that there will be nothing to prevent harmony on this score after amendments are effected.

In a word, this year's meeting of the National Association has proven to be another step forward in scientific work and in professional organization.

MEDICAL NEWS OF THE NAVY.

IN a recent bill before Congress the Navy Department has asked for an increase of twenty-five officers in its medical staff. This is a step in the right direction. According to its own statement, the lives and health of the officers and men are too important to be trusted to the incompetent, and the rapid increase in the size of both the Army and Navy has rendered the previous force totally inadequate to meet the present requirements.

In the Army this condition in the past was met by the appointment of what were known as "contract-surgeons," and this was practicable in the Army from the fact that as the demand for their services occurred on shore and within the limits of the United States, it was possible to find competent men. Such is not the case in the Navy, as these conditions do not exist, and the number of ships in commission has increased so largely that it is now imperative that a corresponding increase should be made in the Medical Corps.

It was also demonstrated that for various reasons the contract system in the Army was not a good one, and it was therefore abandoned. This was also an easier thing to accomplish there than it would have been in the sister branch of the service, inasmuch as the younger medical men seeking government appointments have, up to within a few years, preferred the Army, so that the list has been kept recruited up to its full number, while the Naval register has been punctuated with gaps of varying dimensions. This was due to many causes, principally, it seems, to the fact that in the Army the bugbear "rank" was positive, while in the Navy it was relative, and the junior medical men messed and were thrown with officers much more junior than themselves. They lived, in fact, in the steerage in their earlier days, and it was only during the incumbency of the preceding Surgeon-General—Dr. Van Reypen—that a bill was introduced and carried by him through Congress, giving them actual rank, with quarters in the ward room. From that time the applications were much more frequent, until at the present writing there are only two vacancies outside of the proposed enlargement of the staff, and these are due, not to a want of zealous young aspirants, nor to a lack even of proper professional qualifications on their part, but, as it seems, to an inability to pass the physical examination. This, however, is not severe. It does not require the active presence of unusual strength, but rather the passive absence of any weakness or debilitating disease. Certainly it is not more than the candidate would undergo for life insurance with the exception, perhaps, of the eyes and special senses, but even there the requirements are less than they are for the line. The professional examination is thorough, but not unnecessarily so. They do not regard or require a diploma, considering that their own examination will be all that is necessary and that if the applicant succeed in passing that he is duly qualified, as he undoubtedly is.

As to the pay, rank and emoluments of the two services, they are identical, with the exception that the Naval surgeon is docked fifteen per cent. while on shore duty, his sea pay corresponding to that of his Army confrère at all times. Why this should be it is difficult to understand. At sea his expenses are much less, his quarters are provided for him, his mess bill is much below what he could obtain suitable food for on shore, he wears his uniform constantly, and he can, if he desires, by giving up the pleasure of too frequent "going ashore," reduce his total expenses far below what it would cost him to live in any other way. And yet it is just here that the wisdom of some of the bureau officers of the past has decreed that he shall have more pay than when the demands of departmental service require quarters in cities and in hotels that he is forced to find for himself. The only possible explanation is that as many men prefer shore duty it is thrown to them as a sop for accepting an unwelcome billet, which the department has the perfect power of enforcing by orders and the liability of which was known to the surgeon when he entered the service—a remnant of the old days when a man's influence to have his orders changed was greater than the power that issued them.

If, however, a man does not care for sea life the Army is also open to him, and surely there is much to recommend the service to young graduates. Very few of them can earn eighteen hundred dollars a year, and that, too, only with

the trouble of uncertainty of collection, for medicine is as long as art, even if the time is not so fleeting, and he is spared the weary hours of waiting and disappointment that are so common as to have become proverbial. On the other hand, he has time to devote himself to any special subject that he cares to pursue, and also the ability to lay by enough to start him later in his chosen career. He sees the world and gains in experience without any expense or trouble to himself. He can also realize that the longer he remains in the service the higher will be his pay, and not only will he be spared the trials of competition, but that, should he elect to retain his position, he can retire in his old age with a feeling of perfect security against want. Let him remember, however, that he is a *doctor* and not a sailor, nor a soldier, and his path will be all the easier. Let him bear in mind that his path and course of action are distinct, for, while the academies can turn out graduates competent to take command of fleets and armies and act as engineers and paymasters, they can not and do not make surgeons.

Medicine is an honorable estate, but if the Naval surgeon does not respect it himself no one else will; the question of precedence in entering a boat or forming in a ceremonious procession has nothing to do with his professional standing, for had he desired other titles and rank it would have been better for him to have entered the service directly in the line. This is all the more marked, because it is a poor enough rule not to work both ways. We do hear, and to our shame be it said, of doctors who insist on being addressed as Commander and Major, but we have yet to find a midshipman or second lieutenant who desires to be called doctor, not because he thinks himself superior, but because his *esprit de corps* has taught him that the customary designations of his own profession are sufficient. Naturally he resents the infraction of this in others, as in fact does the world at large, so that it will be well for the youthful surgeon entering into the tent or the ward room never to lose sight of the fact that he is a doctor, pure and simple, that medicine is his first and only duty, that as he regards his position so will those whom he meets, and also that on the latter depends much of his daily comfort and ease, otherwise he will soon realize that he is alone among many, somewhat more learned than clever. *"Doctior quam sapientier,"* a little more of a doctor than a wise man.

TETANUS AND VACCINATION.

IT has been justly feared that the unusually large number of cases of tetanus following vaccination in the United States during the year 1901 might form the basis of future attacks upon both public and private vaccination. Hence those who are interested in preventive medicine welcome every effort to establish the cause of what has threatened to become a widespread and serious complication of a simple prophylactic measure.

Huddleston not long ago reported the finding of tetanus bacilli in the feces of 8 per cent. of the calves in the vaccine laboratory of the Health Department of New York City. It is from some such source as this, according to Jos. McFarland (*Jour. of Med. Research*, May, 1902), that the infection of vaccination wounds proceeds. While the reported cases of tetanus infection have occurred chiefly in the Eastern part of the United States and Canada, they have nothing to do with atmospheric, telluric or seasonal conditions, and the future avoidance of the complication is to be attained by greater care in the preparation of the vaccine virus.

The period of incubation in traumatic tetanus is ordinarily from seven to nine days, while in cases following vaccination the period of incubation averages twenty-two days. Here is a weak point in the argument for contaminated vaccine virus; the figures certainly suggest that a secondary infection takes place which is independent of the material introduced at the time of vaccination. McFarland, however, believes that the tetanus bacillus is engrafted into the skin at the time of vaccination, but fails to find conditions suitable for its growth until the development of the vaccination lesion paves the way by local destruction of tissue.

The weakest part of this writer's exceedingly interesting statistical analysis is that which deals with the relationship of tetanus infection to particular brands of virus. Authentic cases have apparently occurred in small numbers after the use of various viruses, but a large proportion after the use of a particular virus. Without knowing how much of the product of various manufacturers was used during the period covered by the investigation, it is manifestly absurd to draw inferences favorable to one manufacturer or detrimental to another. The learned professor should have called into consultation a business expert before elaborating a statistical argument, the whole value of which depends upon accuracy

of the assumption that various makers of vaccine "probably do an equal amount of business."

With the main contention of McFarland's paper, that it is unusual for many tetanus germs to be implanted at the time of vaccination, but that such implantations can and do occur, we are inclined to agree. It is worthy of note that when McFarland's paper was written he was compelled to concede that no one had yet succeeded in finding tetanus germs in vaccine virus. This discovery has since been made by R. W. Wilson and was communicated to the Philadelphia County Medical Society on April 23, 1902.

THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITER.

GRAVES' disease is characterized by signs so marked that any one of average intelligence can form a very positive opinion whether a given case has or has not improved. In the tremor, the cough, the diarrhea, the dyspnea, the strumitis, the tachycardia, in the very lines of boundless horror and fright portrayed in the face by the exophthalmos there is little or none of the psychical; all the symptoms are distinctly physiological and material.

Those which appeal to us most directly, the facial, are happily serviceable as indicators of their fellow symptoms; we are able, then, by a series of photographs, to form an absolutely trustworthy concept of the result of treatment in a given case. When we are shown such a series presenting in beautiful truth and simplicity the wonderful results of operative intervention in a long list of cases, we are justified in pausing to consider some points in the technic of the surgical cure of this obstinate affection. In spite of the fact that the theory upon which the operation is founded finds little favor at the present day, Jonnesco of Bucharest (*Archiv für klinische Chirurgie*, April, 1902) has published a final paper which goes far, according to his presentation, to show that excision of the cervical sympathetic, with the upper, middle and lower ganglia, never kills, and cures in a large percentage of cases.

Happily the operation presents no particular difficulty; any surgeon of average skill can carry it out. The incision is long; it passes from the mastoid down the posterior aspect of the sternomastoid to the clavicle. The spinal accessory nerve is protected from injury, the omohyoid retracted or divided and the sympathetic found immediately below this, either posterior to or within the carotid sheath. The inferior ganglion is the most troublesome to find; it lies between the scalenus posticus and the vertebræ, upon the neck of the first rib; in order to find it easily it is necessary to separate the clavicular portion of the sternomastoid from the clavicle. This operation is done on both sides, all traces of the system being removed.

Partial thyroidectomy is the only procedure which in any way rivals sympathectomy. How little justification there is for the first can be seen by the fact that its mortality is 13 per cent.; its cures but 30 per cent. Sympathectomy has no mortality and it cures, says Jonnesco, 58.9 per cent. of all cases.

In fine, this paper from Bucharest forces upon one certain definite conclusions. Whatever the pathogenesis of exophthalmic goiter, be it the outcome of a neurosis, of a lesion, of compression, or of an intoxication, we would seem to have in Jonnesco's operation a reliable medium for relief and permanent cure. The less radical operations of simple separation and stretching the cervical sympathetic will be abandoned for one which is shrouded in no greater difficulty or graver danger. Albeit it may not remove the cause, it abrogates the symptoms, which, after all, is the grand ultimate end of all therapeutic strife.

ECHOES AND NEWS.

NEW YORK.

Rockefeller Fellowship for Dr. Richards.—Dr. A. N. Richards, Assistant in the Department of Physiological Chemistry at the College of Physicians and Surgeons, has been appointed to a research fellowship in the Rockefeller Institute for his recent investigations in the field of physiological chemistry.

Summer Expenses.—An appropriation of $25,000 was made last week to the Health Department of New York City for expenses during the summer and for the services of three inspectors. A resolution was adopted authorizing the issue of $50,000 bonds for new buildings for the Board of Health.

Dedication of the Robin's Nest.—For the past six years this most practical charity, which affords a summer home for destitute and crippled children, has been maintained by young ladies residing at Tarrytown, Irvington and Ardsley. On Saturday last the new hospital and home was occupied for the first time and appropriate dedicatory services were held. The building has been newly equipped with all necessary and desirable improvements for the care of its inmates and opens its doors for the present season entirely free from debt.

Ophthalmia and the Health Board.—The New York Board of Health, at its last regular meeting placed ophthalmia on the official list of contagious diseases. This will make it necessary for every physician to report these cases to the Health Department. Many such cases have been prevalent of late among school-chil-

dren, and to prevent its spread it has been put on the list and measures will be adopted for combating the disease.

The Coroners and the Hospitals.—During the past week an antagonism has arisen between the Coroner's Office and the house staff of Bellevue Hospital, which is not less childish than unfortunate. It is unnecessary to review the conduct of our city coroners for any great period of time to become impressed by a flagrant disposition on their part to magnify the little brief authority that attaches to this all but obsolete office. It is their delight to criticize severely any doctor with whom their duties bring them in touch, particularly if he be young or lacking in influence. In accord with this habit during a recent visit to the wards of Bellevue, one of the assistant coroners took occasion to report to the hospital superintendent a disposition of the members of the house staff to neglect sending prompt notification to the coroner in cases requiring ante-mortem statements. The terms selected to convey this criticism of the young doctors were far from complimentary and the latter, instead of replying in kind, have shifted the responsibility and taken a pleasant revenge by calling the coroners in season and out of season to see every patient for whom such a service might in the remotest degree seem desirable. By assuming an attitude less suggestive of cheap superciliousness and using expressions less tinctured with Bowery sarcasm when dealing with members of the medical profession, the coroners will find it possible to avoid much friction and trouble for which, as in this instance, they should blame no one but themselves.

Fees from Hospital Patients.—Dr. George R. Fowler of Brooklyn, has won another of the suits he has instituted to collect fees for services rendered by physicians in the hospitals with which he is connected. Justice Van Wart, in the Second District Municipal Court, recently awarded to William E. Taylor $160 for professional services rendered to Julius Anderson and his fourteen-year-old daughter. Justice Van Wart allowed the claim on the ground that "when one accepts a beneficial service from another the law presumes an intention on his part to pay therefor the reasonable value of the services rendered, and an agreement to that effect is implied."

St. John's Guild Hospital.—The Seaside Hospital of St. John's Guild will be opened for the reception of patients on Monday, June 16th. Patients will be sent to the hospital by the Staten Island ferry, a nurse and orderly being in attendance on the 10 a.m. and 2.30 p.m. boats. Tickets for distribution among the sick children of the poor of New York may be had free of charge at the office of the Guild, 501 Fifth Avenue, New York City.

College of Physicians and Surgeons.—Harsen prizes for proficiency at examination; three prizes, valused, respectively, at $500, $300, and $200, have been awarded. First prize, Charles E. Webster, Jr.; second prize, Seward Erdman; third prize, Hermann von W. Schulte. Each of the ten honor men who do not obtain a higher prize receives a Harsen prize of $25. These honor men are C. E. Webster, Jr., Seward Erdman, A. M. Peppenheimer, Ralph M. Beach, William T. Bull, H. von W. Schulte, James Francis Rice, Austen Fox Riggs, Philip Bissell, Henry W. Titus. Harsen prizes for clinical reports, founded by the late Jacob Harsen, M.D., three annual prizes, valued, respectively, at $150, $75, and $25, were awarded to Joseph Frederick Saphir, Isaac Seth Hirsch, Edward Anthony Spitzka, respectively. Alumni Association prize, a biennial prize of $500, open for competition to the alumni of the College of Physicians and Surgeons, was received by George Alfred Laurence. Three fellowships of the annual value of $500: Fellow in Anatomy, Edward Anthony Spitzka; Fellows in Pathology, Hughes Dayton and Augustus B. Wadsworth. Alonzo Clark Scholarship, established by bequest of the late Alonzo Clark, M.D., LL.D., for many years President of the College of Physicians and Surgeons, to promote the discovery of new facts in medical science, annual value about $700, was obtained by Augustus Jerome Lartigau.

PHILADELPHIA.

Location of the Pest-house.—The question of the new location for the city pest-house is still agitating the residents in the neighborhood of the proposed site. A meeting of the citizens to protest against this location has recently been held and the meeting addressed by property-holders and by members of the medical profession. The location is opposed largely on account of its proximity to the water-supply of the city, the medical profession holding that it would render the entire city liable to great danger arising from the pollution of the reservoirs.

The Jewish Hospital.—The double corner-stone laying at the Jewish Hospital was celebrated June 1st. The corner-stones were for the new operating building and a new hospital for pay patients. A pleasant feature of the ceremony was the announcement of a $20,000 gift from Mrs. Eisner for the erection of a new nurses' home.

Plaster of Paris in Orthopedic Surgery.—The American Orthopedic Association recently held its meeting in this city. On Thursday evening the meeting was devoted to a discussion on plaster of Paris.

Smallpox in Tioga.—Owing to a case of smallpox in the Odd Fellows Home in Tioga, the place has been quarantined. A servant developed the disease, was removed to the Municipal Hospital and the buildings thoroughly fumigated.

Danger in the Use of Carbonic-acid Gas for Inflating the Stomach.—At a recent meeting of the County Medical Society Dr. Moses Behrend read a paper in which he pointed out the danger of using carbonic-acid gas in inflation of the stomach and reported three deaths which seem unquestionably due to this cause. In each instance, one dram each of tartaric acid and sodium bicarbonate were used. In the first case the patient became greatly distressed soon after the drugs were taken and half an hour after vomited a quart of blood. This was followed by more during the next twelve hours, the patient dying from hemorrhage twenty hours after the stomach was inflated. Autopsy showed ulcers of the stomach with rupture of a vessel at the base of an ulcer. The second case was that of a male, aged seventy-three years, who ejected froth and blood soon after inflation of the stomach. Prostration, from which he never rallied, soon came on and death occurred the ensuing day. Autopsy showed carcinoma at the junction of the esophagus and stomach. The third case was that of a male, fifty-three years old, in whom the stomach was not inflated by the powders. The patient became dazed almost immediately and soon died. Autopsy revealed a dilatation of the esophagus with suppurating tracheal glands. Dr. Behrend condemns the use of this method of diagnosing conditions of the stomach in office or dispensary practice. In hospitals it may be used when serious lesions are excluded. These are more dangerous when situated at the junction of esophagus and stomach.

Dilatation by Carbonic-acid Gas or by Stomach Tube?—Dr. William E. Hughes, under whose charge some of the cases just reported had occurred, said that he had used that method largely and indiscriminately with no fatal results before these. Since

they occurred he had experimented with the Seidlitz powder upon cadavers in a number of instances in order to observe its effects upon the stomach. But little distention followed. This may have been due to the coldness of the stomachs, although the test was made very soon after death. In the living body there is danger only in exceptional circumstances. If there be dilatation of the esophagus the danger is imminent. To avoid this, the operator should first satisfy himself that there is free entrance of liquids into the stomach. Diagnosis is often aided greatly by such dilatation of the stomach, but often it is not reliable practically as no distention follows. In one case four powders were given at one time and yet no distention followed. The patient experienced no bad results. Dilatation through a stomach-tube is a much more safe procedure. The danger from the use of gas is the sudden dilatation and this is no more valuable than the slower method.

Gift to Pennsylvania.—Provost Harrison of the University of Pennsylvania has announced a subscription of $100,000 toward the building fund of the new medical laboratories. The subscription has been made as a memorial and will be devoted to the Pathological Department. This contribution is one of the most munificent benefactions which the Department of Medicine of the University of Pennsylvania has ever received.

CHICAGO.

Treatment of Principal Defects of Speech.—Dr. James Moreau Brown recently read a paper on this subject in which he said that some authors regard stammering and stuttering as meaning the same thing. Others strongly insist upon the necessity of distinguishing one from the other as implying two different conditions. McCormac, perhaps the earliest writer upon these conditions, defines stammering as a hesitation of speech and stuttering as stoppage of speech, the proximate causes being in most cases an effort to utter words or other vocal sounds when the air in the lungs is exhausted and they are in a state of collapse or nearly so. Behnke, a later writer, defines stammering as a defect in the utterance of consonants and stuttering as a defect in the utterance of vowels. To illustrate this he states that if the stammerer wish to say "pa" he has a kind of lockjaw and cannot get his consonant out; this, however, once accomplished, he has no trouble in adding the vowel to the consonant. He may be equally confused in trying to utter a word commencing with a vowel and in spite of the widely-opened mouth no sound will be forthcoming. If a stutterer wants to say "pa" the case is exactly reversed; he has no difficulty in articulating the consonant "p," his difficulty consisting in adding the vowel to it. It is a general notion that a child will outgrow the impediments of speech and in some instances the difficulty does decrease as the maturer age is reached. The child learns speech by imitation and many defects of speech may be obviated by early training. Talking to children in the so-called "baby-talk" should in all instances be discouraged. The treatment of stammering and stuttering is by no means easy. A system has to be employed in which, perhaps, the entire mode of life must be changed, to say nothing of the continuous training, slight mistakes often causing a complete setback. The treatment, for the sake of convenience, may be divided as follows: Pathological Aspect: It is the opinion of many that stammering and stuttering may be successfully treated by the training of breath and speech alone. This is, however, erroneous as in the majority of cases it is first necessary to remedy any defects of the upper air-passages, and frequently one finds conditions due to a great extent to nervous affections. The speech difficulty may be a mere symptom of some grave nervous disorder which should have careful attention. Mental Aspect: It is a well-known fact that people afflicted with defects of speech, when in the presence of intimate friends and surroundings such as make them feel at ease, have complete control over the powers of speech, which shows that the underlying cause is mental and not physical. An excellent and amusing illustration of this is given by Kussman of Strasburg: "A woman was subject to sudden attacks of speechlessness, which occurred at intervals and lasted some time; during these attacks she was unable to articulate. Many forms of treatment had been resorted to without success. Finally, she was directed to mutter under her breath, at the commencement of every attack, the following words: "In the name of God, the Father, the Son and the Holy Ghost,' then turn around and expectorate, repeating at the same time, inaudibly, 'That is for thee,' while thinking of the devil. This remedy invariably stopped the attack." Other mental causes of stammering, together with timidity and shyness, are distrust, fear of ridicule, eagerness, impatience, excitement, envy and imitation. Elocutionary Aspect: This is, perhaps, the most important, and the subject of correct breathing and training is to be considered under this head. In a majority of cases the speech difficulty can be traced fundamentally to the management of the breath, and the results obtained by training a patient to manage his voice by means of diaphragmatic action are marvelous. As an illustration of this, a patient presents himself stammering very badly; when trying to say the alphabet he can scarcely pronounce a single letter and in endeavoring to reply to questions the whole body is thrown into contortions. Control of the diaphragm is obtained and a short inspiration taken before each letter by contracting the diaphragm and pronouncing the letter by relaxation. These movements can be controlled by placing the hand upon the abdomen and it is wonderful to observe the results obtained. The question naturally arises why diaphragmatic breathing should have such a beneficial influence on the voice. In reply to this it may be stated that clavicular breathing is unyielding and clumsy, owing to the bony structure of the upper part of the thorax and over which it is impossible to get easy and delicate control. The diaphragm, on the other hand, exercises muscular force on that portion of the chest walls which is surrounded only by soft and yielding parts and which can be trained to act with certainty and precision, the diaphragm being the great muscle of inspiration and expiration. Conversation for a time should be avoided as much as possible and during respiration slowness and equability should be adhered to. The lips and tongue should be placed in position and air expired with force, pronouncing one letter at a time, then two, and later sentences as the training develops itself. It is a common fault with stammerers and stutterers to try to speak with either widely-distended lungs or empty lungs, either of which is fatal to easy and smooth delivery, and to obviate this habit it is necessary to train the patient to breathe more lightly and more frequently. Breathing exercises not only give a more upright carriage to the body, but tend to develop the chest and keep the blood in active circulation. While they may not themselves effect a cure for stammering and stuttering, they nevertheless are the most important aids in the work. Phonation drill of the pharynx depends upon the action of the adductors, or closing muscles of the vocal cords. If these do not act no phonation of tone is possible, and if they act with uncertainty it naturally follows that the voice will be produced with uncertainty. Control over the soft palate also confers the invaluable power of breathing through the nostrils while speaking and singing, thereby preventing dryness of throat of which so many complain.

The time necessary for the treatment of stammering and stuttering will vary. Long-continued discipline and self-control are necessary—more so in children than in adults who are able to comprehend the importance of and continue the treatment alone. These methods of treatment are based upon the observations published by Henry McCormac in 1828 and upon personal observation in the speech-defect clinic of Dr. C. Hudson Makuen of Philadelphia.

Removal of the Uterus at Full Term of Pregnancy on Account of Large Fibroid of Cervix and Lower Segment of Uterus Blocking the Pelvic Cavity, with Recovery.—Dr. Carl Wagner of Chicago read a paper on this subject and exhibited a specimen at a recent meeting of the Chicago Medical Society. The tumor was so located that the parturient canal passed through it. A large part of the lower segment of the fundus of the uterus was invaded by the fibroid mass which represented the three forms of this kind of tumor, namely, submucous, intramural and subserous. The tumor encroached upon both ureters in such a way that one had to be dissected out of the tumor and denuded to the extent of two inches, and the other to the extent of one inch and a half. Neither the Porro operation nor Cesarian section seemed to be the proper procedure to be followed on account of the fetus being dead, the placenta macerated, and the liquor amnii decomposed, thus involving great risk of infection. Enucleation of the tumor by the vaginal route and evacuation of the contents of the uterus were impossible, the tumor extending too far into the fundus of the uterus. The ureters were included in the tumor on both sides, the bladder being drawn up and adherent, as were also loops of intestines. The uterus was removed together with the tumor in one total mass. The patient left the hospital seventeen days after in perfect health. According to the literature this is the first time that the uterus at full term has been removed with its contents and tumor in one mass.

GENERAL.

American Gynecological Society Officers.—President, J. E. Janvrin, New York; First Vice-President, E. W. Jenks, Detroit, Mich.; Second Vice-President, A. P. Dudley, New York; Treasurer, J. M. Baldy, Philadelphia; Secretary, J. R. Goffe, New York.

Lives Lost in Chicago Sanitarium.—St. Luke's Sanitarium, apparently operated for the treatment of alcoholic patients without proper license, was consumed by fire on June 9th. Ten lives were lost and more than thirty inmates were injured.

Law and Medicine.—Princeton graduated this year a class of 258 men. Of this number 69 have asserted their intention of pursuing the law as a profession, while only 23, or exactly one-third as many, will choose the more arduous study of medicine.

Queen Wilhelmina Decorates Her Doctors.—The physicians who attended Queen Wilhelmina during her recent illness have been decorated. Prof. Roosenstein, the pathologist of Leyden University, has been promoted to the rank of Commander of the Order of the Lion of the Netherlands, and Drs. Konwer, Roessingh, and Pot have been appointed Knights of the same order.

The New Surgeon-General.—The President has appointed Dr. William H. Forwood, at present assistant surgeon-general, to succeed Surgeon-General Sternberg who will reach the age limit, and be retired within a few days. Dr. Forwood was born in Maryland, and became assistant surgeon in the regular army in 1860. By 1865 he had risen to the rank of captain assistant surgeon; he became lieutenant colonel surgeon in 1889, and colonel assistant surgeon-general in 1895. Dr. Forwood was in charge of the Montauk Hospital at the termination of the Spanish-American war and the success that attended the efforts to reinstate the health of the soldiers returned from Cuba was in a large measure due to his judgment and experience.

The Australian Quack.—As there is no proper medical law in Australia, nor, indeed, any legislative enactment in force by means whereof the practice of medicine may be confined to its duly-qualified exponents, quackery flourishes exceedingly, and in the most impudent and barefaced fashion. Statistics prove that each legitimately qualified practitioner living in Australia strives for his bread in competition with three quacks. But if the law does not protect the qualified man and despises the health of the community thus exposed to the ravages of impostors, the charlatan himself it takes to its heart and nourishes as though he were a precious jewel. Thus, if a man suffer from the negligence or malpractice of a qualified surgeon or physician and can prove his case, the law gives heavy damages to the injured one. But if a like injury be suffered at the hands of a quack, the law non-suits the plaintiff, remarking, with a wag of its asinine head, "My dear sir, you have no case! If you employ a quack to attend you, you do so at your own risk. You have no legal redress!"

Sanatoria for Consumptives.—The announcement of the prizes offered by King Edward for the best plans for a complete sanatorium for consumptives has been followed by a great deal of discussion. Dr. James Arthur Gibson, through the "Westminster Review," has made some criticisms and suggestions which have a bearing on the same problem in this country. He opposes the erection of a large sanatorium, which seems to be conditioned by the requirement that the plans shall provide for a sanatorium capable of accommodating 100 patients, and advocates rather the erection of a number of small sanatoria, and outlines a comprehensive plan with that end in view. Contrary to prevalent opinion, he declares that it is not advisable to build lying-out verandas. "They are bad for patients who are recovering," he says, "since they conduce to loitering and lazy habits, while they are also bad for those who are more ill, since they lead to overcrowding, talking, and excitement. Nor are recreation rooms, such as billiard rooms and other like superfluities, to be tolerated, for they but keep the patients indoors when they should be out, and besides, these meeting-places, with their excitements and overexertions, are most detrimental to progress in cure. Even chess and card games are exhausting. I have lived through it all and know just exactly what these excitements mean for the consumptive. Nor is it advisable that there should be a farm in connection with the sanatorium. The doctor in charge will have enough on his shoulders without that. A garden, however, which should provide green vegetables during as great a part of the year as possible, would be an advantage." He opposes as well the plan to provide in these public sanatoria for well-to-do patients, believing that it would lead to troublesome complications.

Bacteria on Mont Blanc.—In the Comptes Rendus of the Paris Academy of Sciences, M. Jean Binot publishes an account of his researches in the observatory on the summit of Mont Blanc, where he has been conducting bacteriological investigations at the highest altitude yet explored. As was to be expected, the air on the summit away from the observatory contains scarcely any bacteria whatever, only from four to eleven being detected in as much as a thousand liters, while in somewhat smaller volumes none whatever was found. As a rule, at lower altitudes, the number of bacteria increased, as for instance, at the Plan de l'Aiguille four-

teen and at the Montanvert forty-nine were found in a thousand liters. Inside the observatory, in which M. Binot spent five days, from 260 to 540 microbes were found in the same volume of air, these being probably introduced by M. Binot and his companions during their temporary invasion of the building. The investigations were not, however, confined to the air on the top of the mountain, but included also bacterial examinations of freshly-fallen snow, old snow, ice on the surface and below, glacier water, and mountain streams. Freshly-fallen snow, even when sampled in large quantities, frequently contained no bacteria whatever, while in snow which had lain for some time usually only one or two microbes were discoverable per cubic centimeter; at the foot of the glaciers the surface snow contained rather more, the number varying from six to sixty-five per cubic centimeter, at the Mer de Glace. Glacier water is usually very pure, and, like the glacier ice from which it is derived, was found to contain a number of yeasts and some streptothrix; but while high up such water contained but from three to eight bacteria per cubic centimeter, a stream at the foot of the Glacier des Bossons contained ninety-five, while the water of the river Arve at Chamonix was found to have as many as 7,550 per cubic centimeter. Altogether, M. Binot examined 121 samples of air, ice, snow, and water, and isolated no less than 300 different varieties of microbes, one-third of which number he was able to identify as having been already studied and described, and the residue are being carefully investigated by him at the present time.

Southern Railway Surgeons.—The Association of Southern Railway Surgeons met last week at Washington and held a session during which much scientific work of special interest to its members was done. Old Point Comfort, Va., and the first Tuesday of July, 1903, were the time and place selected for the next meeting. The officers elected are as follows: President, Rhett Goode, Mobile, Ala.; First Vice-President, T. P. MacMahan, Illinois; Second Vice-President, W. M. O'Brien, Alexandria, Va.; Secretary and Treasurer, J. J. Harrison, London, Tenn.

Exhibition of Old Books on Ophthalmology.—One of the pleasantest and most interesting evidences of that growing sense of scholarship and interest in historical subjects at the recent meeting of the American Medical Association was an exhibition of the earliest works bearing on ophthalmology. This very superior collection was gotten together by a committee consisting of Drs. Casey Wood, Chicago; A. R. Baker, Cleveland; A. A. Hubbell, Buffalo, and Harry Friedenwald, Baltimore. The books were exhibited in a room adjourning the section room and were well arranged and suitably labeled. Other sections of the Association could follow this example to advantage.

Association of Military Surgeons.—The eleventh annual session of the Military Surgeons of the United States convened in Washington on June 5th and 6th. The attendance was good and included representatives of the armies of Japan, Great Britain, France, Italy, Canada and Mexico. Addresses of welcome were made by President Roosevelt, by Commissioner Macfarland of the District of Columbia, by Dr. S. S. Adams, in behalf of the medical profession of the district, and by Lieut. Col. J. Van R. Hoff of the District National Guard. The last mentioned gentleman dwelt upon the inadequacy of the medical department of the State Militia, which in point of numbers is not more than half sufficient to supply the needs of the most advanced line of assistance, leaving entirely out of consideration everything from there to the base hospital. The Enno Sanders prize, consisting of $100 in gold and a gold medal, was awarded Lieut. Col. Valery Havard, U. S. A., for the best paper. His subject was "The Most Practical Organization for the Medical Department of the United States Army in Active Service." The regular routine of the scientific program was pleasantly interrupted by a banquet and reception. The next annual meeting will be held in Boston, Mass.

Obituary.—Dr. George W. Woods, a retired medical director of the United States Navy, died on June 10th in San Francisco. He was born in New Bedford, Mass., in 1838.

Dr. Benjamin A. Church dropped dead in Oneonta, N. Y., on Friday, June 6th. He was born in 1855 at Coventry and graduated with high honors from the University of the City of New York in 1878, being later connected with the university. He was a prominent member of the New York State Medical Association. He leaves a widow and one son.

Dr. Otis Freeman, who is believed to have been the oldest practising physician in America, died at Freehold, N. J., on June 8th. Dr. Freeman was born in New Hampshire, Dec. 30, 1809. He continued to practise up to five days before his death, although he had been confined to the house for several weeks past as the result of a fall. Dr. Freeman was appointed a surgeon in the Civil War by Governor Olden of New Jersey in April, 1862. After the battle of Sailors' Creek, Va., he worked for fourteen hours without cessation over the operating-table. While mounting his horse in a hurry during the war Dr. Freeman received an injury which entitled him to a pension. He did not apply for it, however, until last year. After much trouble a pension of $12 per month was granted him.

Dr. William Armistead Nelson died June 6th at the residence of his son-in-law, Rudolph P. Miller, 141 East Fortieth Street, New York City. He was a descendant of the Nelson family of Virginia, prominent in Revolutionary times. Dr. Nelson's grandfather was Col. William Nelson, who took an active part in the siege of Yorktown. His great-grandfather was Thomas Nelson, Secretary of the Virginia Council, whose house at Yorktown was the one used by Cornwallis as his headquarters and was totally destroyed by the American shells. Governor Nelson, the signer of the Declaration of Independence, was a great-uncle of Dr. Nelson. Dr. Nelson was born at Fredericksburg, Va., in 1817. He studied medicine at the University of Pennsylvania, where he took his degree in 1839. He was soon appointed assistant surgeon in the United States Navy and accompanied Commodore Perry on his expedition to Japan. In 1854 he was appointed surgeon. He resigned shortly before the Civil War, and on the outbreak of that conflict joined the Confederate Army as surgeon, serving at Yorktown, Richmond, and in Louisiana. After the war he moved to Missouri, where he practised medicine for many years. He was married in 1846 to Mary Robinson Moncure, and was a cousin of Thomas Nelson Page.

CORRESPONDENCE.

A CORRECTION.

The Editor of the MEDICAL NEWS:

DEAR SIR.—In your issue of March 8th, in the report of the Transactions of the Harvard Medical Society, I am credited with the following statement: "Dr. Grandin does not think he has ever seen a case in which recurrence did not take place after hysterectomy for cancer of the uterus."

In the interest of statistical data—if of no other—allow me to state that I am incorrectly reported. What

I desired to say, and what I would ask you to publish, is that I have never seen a case in which after hysterectomy for cancer of the *cervix* recurrence did not set in. I have knowledge of fully a dozen cases in which after hysterectomy for cancer (or allied forms of malignancy) of the *corpus uteri* recurrence has *never* set in—in certain instances after the lapse of eight years.

You doubtless note the importance of the desired correction.

EGBERT H. GRANDIN.

36 East 38th Street, May 26, 1902.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

LATENT PERIOD IN GRAVE ABDOMINAL INFLAMMATION—BILHARZIA IN ITS CLINICAL AND PATHOLOGICAL ASPECTS—A NEW PATHOGENIC BACTERIUM RESEMBLING BACILLUS PESTIS—THE ACTION OF HIGH-FREQUENCY CURRENTS ON BACTERIA—PARALYSIS OF THE CERVICAL SYMPATHETIC NERVE—PROBABLE COMPLETE ATELECTASIS OF THE RIGHT LUNG FROM BIRTH—FOOD PRESERVATIVES.

DURING the past few weeks the medical societies of Britain have been active in scientific affairs. The following abstract of important meetings will be of interest to our readers. A. H. TUBBY, at the Medical Society of London, April 28th, read a paper on the quiescent or latent period in the course of grave abdominal inflammation, which has already been published in brief form in Medical Progress. The discussion which followed this paper is instructive. T. D. Savill referred to the importance of the subject, both in its medical and surgical aspects, and confirmed the value of the pulse-temperature ratio as an indication of gravity. The temperature was often subnormal in these latent abdominal cases, but if the pulse were persistently rapid, say over 100, the case called for further investigation and usually prompt surgical aid. His experience did not lead him to attach so much importance to the actual number of leucocytes as an indication of suppuration as to the proportion of polynuclear cells to the other white cells. Normally this is 65 per cent. and no obscure pus-formation can occur without an increase in this proportion. Blood-films, which could be easily stained and examined, should always be investigated in latent abdominal affections of the kind referred to by Tubby.

J. H. Bryant emphasized the importance of leucocyte counts in the diagnosis of all obscure abdominal suppurations. He lamented the fact that so little is done in this country in the way of systematic blood-examination and pointed out that at the Johns Hopkins Hospital in America systematic and thorough examinations of the blood are made in every case admitted, irrespective of the diagnosis. He alluded to some cases of appendicitis under his own care in which the presence of leucocytosis had been an indication for surgical interference, and the absence of leucocytosis a contraindication. The importance of the rapid pulse-rate as an indication for operation he fully endorsed. A slow pulse with high temperature in his experience had rarely, if ever, been associated with any form of latent abdominal suppurative disease requiring surgical aid. With regard to the presence of chest complications as an indication for operation, he thought the great difficulty of distinguishing diaphragmatic pleurisy and basal pneumonia from primary abdominal disease lies in the occasional immobility of the diaphragm and the presence of abdominal pain and tenderness in the former conditions.

J. Hutchinson, Jr., remarked that there were two classes of quiescent phase, one in which it comes on before and the other in which it comes on after the more marked signs of abdominal disorder. These require different interpretations. The explanation of this latent phase by derangement of the nerves of the intestine does not always obtain. Rigidity of the muscles is not by any means an infallible sign of peritonitis. As to leucocytosis the results seemed to differ in the hands of different observers.

F. H. Hall referred to the question of diagnosis of diaphragmatic pleurisy and appendicitis. In some cases of appendicitis the diaphragmatic lesion is evidently, from its symptoms, of peritoneal nature.

LIEUTENANT P. S. LELEAN, R.A.M.C., presented a communication on the bilharzia in its clinical and pathological aspects, illustrated by lantern slides and microscopical preparations. After dealing with the morphological relations of this parasite, its development was fully discussed. He had demonstrated the actual hatching of an embryo in blood-serum kept for twenty-four hours at a temperature of 30° C. This, coupled with the observation of an embryo hatched in undiluted urine, established two most important links in the chain of events possible in auto-infection. The hatching of bilharzia ova in serum had been previously regarded as impossible, and it completely removed the main objection which had been urged against Sonsino's theory of auto-infection. The adult worm is found only in the portal system, but the embryos migrate and may be found anywhere. When death occurs it is usually due to pneumonia. The channel of infection was next discussed. The invasion of the parasite through the urethra during bathing was possible, but the evidence points to its entry through the rectum, thus gaining access to the portal system, which is the habitat of the adult worm. The disease is very rare in women, who in tropical countries bathe as often as do men. In the treatment he considers three remedies of value. Urotropin is useful, especially for the cystitis and hematuria, but applications of benzoic acid and methylene blue have more direct effects on the parasite and produce an amelioration amounting in some cases almost to a cure. His own treatment is to apply every fifth day four grains of methylene blue three times a day; benzoic acid is applied in the interval.

Surgeon-General Keogh, A.M.S., referred to the growing importance of the subject, because a number of cases would certainly be coming home from South Africa. A number of cases of so-called dysentery were really cases of bilharzia.

E. KLEIN, at the Pathological Society of London, May 6th, exhibited lantern slides and cultures of a bacillus which he has found in the dead bodies of rats and which resembles the bacillus of plague (bacillus pestis) in its morphological features and in its pathogenic qualities. It differs, however, from that organism in its cultural characteristics.

A. G. R. FOULERTON read a paper on the action on bacteria of electrical currents or discharges of high potential and rapid frequency. The results were given of some preliminary experiments made at the commencement of the systematic investigation into the action of some of the currents on various micro-organisms. The experiments as a rule were carried out by spraying the current over the surface of an emulsion in water of the bacteria tested. The current was applied by means of a platinum brush; a platinum wire was sealed through the bottom of the tube containing the emulsion, by means of which the current was either carried to earth or discharged into the air. The experiments were carried out at a temperature of from 15 to 16° C. The voltage varied from 35 to 24 and the current from 2½ to 5 amperes. Small quantities of nitric acid and ozone were probably carried into the emulsion, which became acid in reaction, but these substances probably did not

materially influence the results obtained. The bacteria which had been tested were bacillus typhosus, bacillus coli communis, bacillus dysenteriæ (Flexner), bacillus anthracis, bacillus pyocyaneus, bacillus prodigiosus, staphylococcus pyogenes aureus, and streptococcus pyogenes. In the case of the bacillus anthracis (sporing culture) a certain proportion of the bacteria present were destroyed by exposure to the current for twenty minutes and the emulsion was sterilized by an exposure for forty-five minutes. In the case of the bacillus dysenteriæ the emulsion was sterilized by an exposure for thirty minutes, but for these two species the exact lower limit had not been determined. Emulsions containing the other bacteria were sterilized by exposures of from ten to twenty minutes' duration.

T. J. BOKENHAM also reported observations in the same field on the following micro-organisms, all suspended in watery emulsion: Bacillus typhosus, bacillus anthracis (asporogene), bacillus diphtheriæ, streptococcus pyogenes, and staphylococcus aureus. The results varied considerably according to the conditions of the experiments. With a brush discharge obtained from an Oudin resonator, sterilization was in every case complete after an exposure of from ten to twenty minutes. With a condenser discharge obtained from the solenoid portion of the apparatus and passed through the emulsion in such a way as to avoid any sparking, the result was in every case negative as regards sterilization; indeed, the vegetative growth of the cultures seemed to be in several instances reinforced. These experiments were merely of preliminary nature and are being continued. Much seems to depend on the actual tension of the current employed and on the chemical reactions developed at the points of entry of the current.

H. B. GRIMSDALE, at the Ophthalmological Society, May 1st, showed a case of paralysis of the cervical sympathetic nerve. The patient presented slight exophthalmos, a small pupil, reacting badly, vision only to the degree of perceiving light, tension, no reaction under cocaine by the pupil or the eyelid, and a gray reflex in the pupil possibly due to a detached retina.

SIR HUGH BEEVOR showed a case of probable complete atelectasis of the right lung from birth. The upper lobe appeared to be represented on the surface of the chest only by a small area against the clavicle. Evidence of fibroid disease, of pleural thickening, or of tumor was wanting and suggested collapse, acquired or congenital. Double coloboma of the iris and sector-shaped opacities of the lens, perhaps also the high and narrow palate, were of congenital origin. These latter deficiencies seemed to render it probable that the case was one of atelectasis from birth. The notes of the case were as follows: The woman was twenty-four years of age, single, under observation for three weeks; she sought advice for pain in the chest, which was alleviated by treatment for dyspepsia. She was small, of slight physique, of good family history as to her parents and brothers and sisters. Her personal previous history was exceptionally free from even childish ailments, an attack of diarrhea being all that her mother could recall. A skiagraph taken by Dr. Martin showed the heart entirely on the right side. There were no signs suggesting intrinsic disease of the heart, but it was displaced to a marked degree, the apex or maximum impulse being felt in the right axilla in the third interspace and 5½ inches from the midsternal line. In the first three interspaces pulsation might be seen and felt; it was also just palpable under the left breast. Dulness extended from the right margin of the sternum to the mid-axilla and from the third interspace downward. Above this interspace was a slight degree of dulness, which was still slighter over the inner portion of the first two spaces and above the clavicle. Percussion elsewhere showed an impaired note only on the right side behind from the middle of the scapula upward and to the axilla. Cardiac auscultation revealed a faint systolic murmur best heard at the base, a common symptom in right-sided displacement. Pulmonary auscultation showed a very faint respiratory murmur above the abnormal; cardiac dulness without evidence of consolidation, with patent bronchi. Vocal fremitus was equal above the clavicles and absent below on the right. There was no clubbing of the fingers. The other organs were normal.

A. E. PORTER, at the Leeds and West Riding Medico-Chirurgical Society, May 2d, read a paper on food preservatives, pointing out that nearly every article of food and drink which is liable to fermentation might be adulterated by the addition of boron compounds—salicylic acid, formic aldehyde, sulphites, or similar antiseptics. Dealing chiefly with the boron compounds, he showed that this class of preservative is unlikely, in the proportion usually found in foods, to exert a prejudicial effect on the digestive ferments, with the possible exception of rennin and amylopsin in the cases of borax and boric acid respectively, though meat which had been exposed to a mixture of these antiseptics was less readily digested by gastric juice. He further mentioned that feeding experiments on animals have usually given negative results, although H. E. Annett's observations on newly-born kittens suggested that in the very young nutrition might be impaired. No such result, however, was noted in the case of three children between the ages of two and one-half and five years, to whom boric acid and borax were given in quantities exceeding the relative medicinal doses. It appeared, nevertheless, that a considerable proportion of the population was liable to manifest toxic symptoms on account of idiosyncrasy or deficient excretory powers and apt to suffer from vomiting, diarrhea, and skin eruptions of some severity upon the administration of even medicinal doses of boric acid. The largest daily doses would probably be taken in milk and the result in the case of a patient suffering from Bright's disease or gastro-enteritis therefore might be disastrous. Milk had been found to contain as much as 80 grains of boric acid to the pint, probably on account of the opportunities which existed for the successive addition of the antiseptic at different stages of the milk traffic, a practice fostered by the misleading advertisements on some of the patent trade preparations. Among other common articles of diet by means of which boron compounds might be unknowingly introduced were mentioned cream, butter, margarine, ham, bacon, sausages, and pork-pies. As there should not be the slightest necessity for such an addition in the majority of foods, it was considered that the public was exposed to an unnecessary risk. The author regretted that no effective legislation exists enabling local authorities to check a practice by which the public is liable to the indiscriminate administration of powerful drugs which should be taken only under medical supervision.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN MEDICAL EDITORS.

Annual Meeting, Held June 9 and 10 1902.

THE annual meeting of the Association of American Medical Editors was called to order by the president, Dr. Alexander J. Stone of St. Paul, Minn., at 2.20 p.m. The president's address dwelt on the opportunities for good that lie in the hands of medical editors and the need for greater solidarity in order to accomplish their aims. The first paper was read by Dr. T. D. Crothers of Hartford, Conn., who

treated the subject of the evolution in medical journalism that has in the last twenty-five years raised the standard of all American medical journals and has created so many specialist periodicals.

Dr. Burnside Foster of St. Paul read a paper on "The Reciprocal Relations Between Physicians and Medical Journals." Dr. Chas. H. Hughes of St. Louis read a paper describing "A Step Forward in Affairs for the Profession." Dr. I. M. Love read a paper on "The Medical Journal and Its Duties to the Profession," and Dr. J. McDonald, Jr., of New York read a paper on "Common Problems of the Subscription Department."

The Tuesday session was taken up entirely by the discussion of technical medical journal questions—the collection of subscription accounts, the relationship of editorial and business management of medical journals and the methods for the extension of the scope of medical journal patronage.

The annual dinner proved even more genial than usual. Dr. Alex. J. Stone of St. Paul, Minn., the president of the Association, acted as an efficient toastmaster and was himself a prominent feature in the pleasure of the evening. After the President's address the members of the Association were welcomed to Saratoga by Capt. Walbridge, the editor of the Saratogian. Though his paper had been burned out in a disastrous fire in the early morning hours, he was ready to do his duty as an editor in welcoming his medical colleagues with a touch of earnestness that proved effective in creating a feeling of at-home-ness. Dr. G. Frank Lydston's (Chicago) poem, "The Man Behind the Knife," was in his absence read by the secretary and evoked marked interest. Ex-Governor Garcelon of Maine, the oldest living former President of the American Medical Association and the faithful attendant at meetings for over half a century, spoke reminiscentially of the Association, its growth and work, and incidentally of the good effect of the medical press in bringing the medical profession into a unity that is now practically complete.

Dr. Chas. H. Hughes, of St. Louis, editor of the Alienist and Neurologist, delivered an address on "The Medical Profession and the Medical Press; the Safeguards of Civilization and the Saviors of Liberty." Dr. Marcy of Boston, an old representative of the Association and an old medical editor, spoke of present and past and of the promising outlook for the future that present progress seems to furnish.

Dr. D. F. Ball, the secretary of the Association of American Medical Editors, outlined a plan by which the medical editors of the country may keep themselves in touch with the progress and bearings of important questions that may be referred to the American Medical Association or to its committees for action.

AMERICAN ACADEMY OF MEDICINE.

Twenty-seventh Annual Meeting, Held at Saratoga Springs, June 7 and 9, 1902.

FIRST DAY—JUNE 7TH.

THE meeting was called to order by the President, V. C. Vaughan of Ann Arbor, Mich.

The "Personal Equation" in Marking Examination Papers.—Dr. Charles McIntire of Easton submitted a series of questions with their answers to a number of examiners, members of State boards and college faculties, to determine if the objection of the various standards of examiners urged against reciprocity is a valid one. The tabulated answers do not sustain that objection, two of the candidates failing and one passing in each instance. State boards were a trifle more lenient than colleges in their marking.

The Family Physician of the Past, Present and Future.—Dr. S. A. Knopf of New York pointed out the depreciation in value, owing to unfair competition, quacks, specialism, etc., of the family physician of the present. The family physician of the future was depicted as having more power than he of the past. The solution of the tuberculosis problem is an utter impossibility without his aid in early diagnosis and enforcement of sanitary laws. He is to be the leader in the physical and moral improvement of the race.

The Physician as an Accountant.—Dr. C. M. Culver of Albany would not inculcate selfishness in the physician, but some method of systematizing his accounts is a necessity. No one method of bookkeeping is advocated. That the books state the truth is the only demand.

Pure Science vs. Applied Science in Medicine.—Dr. Winfield S. Hall, of Chicago, defined the limits and pedagogic value of each and their relative value in the medical curriculum. There is no pure science in medicine as all cases are individuals. The physician is therefore best fitted for his work by a long study in applied science after receiving a basis of pure science in the literary college. In addition, the latter should furnish a small course of applied science. Even in the medical school the problems of chemistry, etc., can be made by the teacher problems of applied rather than of pure science.

Time Allowance in the Combined Collegiate and Medical Course.—The report of the committee on this subject provoked a lengthy discussion. The report being the replies received from 157 medical and literary colleges in answer to a series of questions bearing on this topic. A variety of views were expressed in the replies and in the discussion. Dr. Vaughan, in defending the six-year combined course now compulsory at Ann Arbor, said it was better for all to take this course than for a small number to take seven or eight years and the remainder only four. In time they hope to raise it to seven years.

The Religion of Science.—The address of the President, Dr. V. C. Vaughan, was said by him to be the personal opinions of one trained in scientific methods and who believes the average scientist to be a religious being. He would bring about a better understanding between the scientist and theologian, both of whom are honestly striving for the improvement of the race. Reasons were given why the scientist should not be called a materialist or atheist. The different conceptions of the Supreme Being were given, that of the scientist being that He is the soul of the universe, is the law of development and growth. The best way to study God is to study the laws of the world and the best service is to obey those laws. Man's position by gradual evolution, until now he is responsible for the improvement of the race was pointed out. The scientist by all his discoveries has aided very materially in the advance of civilization and morality. The scientist seeks the truth in whatever he does.

SECOND DAY—JUNE 9TH.

The Medical Profession and Social Reform.—Dr. E. L. Devine of New York, by invitation, read a paper on this subject. He said that physicians should take into their confidence that part of the general public which has shown an interest in social welfare increasingly. The great part physicians can take in all social reforms was emphasized. Organized charity and physicians should coöperate in alleviating the condition of the poor.

The Political Side of Medicine.—Dr. J. B. Roberts of Philadelphia read the first paper of a symposium on "Politics in the Medical Profession."

The Relation of the Physician to Politics.—Dr. D. C. Hawley of Burlington read a paper with this title.

Compensation for Medical Service Rendered the State.—Dr. J. D. Davis of Pittsburg contributed a paper on this subject.

Medical Representation in Hospital Management.—Dr. A. A. Eshner of Philadelphia read this paper. The first two papers emphasized the importance of the physician taking part in the civil and political affairs of his country, especially when political corruption affects education, sanitation, etc. The peculiar qualifications of the physician for intelligently taking part in the control of his community were enumerated. The third paper condemned physicians for bringing about inadequacy of pay in public positions by undervaluing their services. The last paper was a convincing argument in favor of the medical staff of hospitals being represented on the managing board.

May Hospitals Steal?—Dr. P. Max Foshay of Cleveland arraigned present hospital methods which permit free treatment of people well able to pay, thus taking the case and the fee from the profession. An instance was given in which an employee of a large corporation was thus operated upon. The corporation manager advised others to do the same and evade the fee. Hospitals must investigate each case and modify their workings or the profession will become thoroughly disorganized.

Good Vision as a Factor in the Education Process.—Dr. S. D. Risley of Philadelphia emphasized the great need of systematic examination of the eyes of school children, actual tests in Philadelphia showing that 88 per cent. of children have congenital abnormality of vision, which in school life becomes serious in many cases. The admirable workings of the compulsory examination system now in force in Philadelphia were demonstrated.

State Aid for Medical Schools and Hospitals.—Dr. Charles McIntire of Easton gave the custom of each State in making appropriations for hospitals and medical schools.

Children in Cities.—Dr. Rosa Engelmann of Chicago pictured the adverse circumstances of poor children in cities. A review of the progress made in their care was given and the pressing need for further attention emphasized.

Election of Officers.—President, Charles McIntire, Easton, Pa.; Vice-Presidents, W. R. White, Providence, R. I.; George Dock, Ann Arbor; Rosa Engelmann, Chicago; D. C. Hawley, Burlington, Vt.; Secretary, Dr. A. R. Craig, Columbia, Pa.; Assistant Secretary, Dr. John S. Davis, University of Virginia; Treasurer, E. M. Green, Easton, Pa.

AMERICAN MEDICAL ASSOCIATION.

Fifty-third Annual Session, Held at Saratoga Springs, June 10-13, 1902.

GENERAL SESSION.

FIRST DAY—JUNE 10TH.

The meeting was called to order by the President, Dr. John A. Wyeth, of New York City, who introduced the Rev. T. F. Chambers of Saratoga Springs. The opening prayer called down blessings on the work of the Association and especially on the great humanitarian purpose of free discussion for the lessening of the suffering of humanity.

The Chairman of the Reception Committee reported the details of the social week and the gift of a handsome banner, 24x10 feet, with the letters "A. M. A." in white on a blue ground, the present of Dr. Johnson. The President of the Association in accepting the gift said that it would fly at every meeting of the Association. The Chairman of the Reception Committee announced an excursion to Montreal and the rapids of the St. Lawrence to start on Friday from Saratoga to which members of the Association and their families are invited.

The President introduced the Hon. S. F. Nixon, Speaker of the New York State Assembly, as one who had always been a pillar of influence for the medical profession of New York whenever there were questions of legislation involving the rights of the profession or infringing its privileges. The Speaker, Dr. Wyeth said, had never turned his back on any measure introduced into the House by the New York State Medical Association and had never failed to stand in defence when legislation threatened to impair professional dignity.

New York's Welcome.—Mr. Nixon said that New York State welcomed most heartily the American Medical Association. The national association owed its rise to New York State initiative and the people of the State appreciated the privilege of having the medical profession as guests. He called attention to the fact that all educational reform in this country had taken its first step in New York. Here was the first public library and the first normal school on the model of which schools have been erected in all parts of the country. In New York, too, the first regular official inspection of schools was organized. For medical education New York State has accomplished much and in nothing has she done more than in the insistence on preliminary education before medical studies begin. Mr. Nixon expressed the hope that one of the results of the present meeting would be the organization of a small group of medical standards throughout the country was to create a reciprocity of State examining boards.

The Assembly and the American Medical Association.—Mr. Nixon said that the Association is to the body physical of the country what the Assembly is to the body politic. Doctors, however, never make mistakes of diagnosis, but when legislators made mistakes in the diagnosis of ills in the body politic they are relegated to that home for decayed and convalescent politicians from which there is rarely any hope of being released. The legislators may be of service to their brothers by analogy of the medical profession and the members of the profession can be assured of the thorough appreciation and hearty coöperation of the Assembly of New York in their great humanitarian work.

Medicine and Faith.—Mr. Nixon recalled the case of the old king of the Hebrews who, abandoning his physicians, went to the Lord and rested shortly after with his fathers. There are in this day some misguided people who follow the same course with, it is said, very similar results. The progress of medicine in the last twenty-five years constitutes one of the most noteworthy achievements in all history. Rapidly American medical schools are rising to a level that places them on a par with the foreign medical schools. That the people of the State of New York and their representatives in the Legislature will be ready to help on this very good cause, the American Medical Association can rest assured.

The President then introduced the Hon. Edgar T. Brackett, the New York State Senator from the Saratoga Springs District, who made the address of welcome on behalf of the village of Saratoga Springs.

Progress in Medicine.—Senator Brackett said that while here to welcome the Association to Saratoga there seems also to be another reason for his presence as a

speaker at this meeting. He had been selected as the one to be buncoed by the Osteopathic Bill at the last session of the New York State Legislature and it seems only proper that he should state his conviction that he shall not again be found in any such connection. Senator Brackett then spoke of the recent very great advances made in medicine. From Hippocrates to Valentine Mott, a period of nearly twenty-five centuries, no more real progress in medicine had been made than the thirty-seven years since Dr. Mott's death. The names of Lister, Koch, Pasteur and our own Marion Sims have acquired a deathless fame in this short period. What steam had done for locomotion and manufactures, antisepsis and anesthesia have done for medicine. A great profession here in America is nobly carrying on the work of noble predecessors and the people and legislators of the country will be proud and glad to help them in their philanthropic work.

Ex-Governor Garcelon of Maine, the oldest living ex-President of the American Medical Association, was then called to the chair and introduced the present President, Dr. John A. Wyeth, whose presidential address will be found on page 1117 of this issue of the MEDICAL NEWS.

(To be continued.)

SECTION ON SURGERY AND ANATOMY.

FIRST DAY—JUNE 10TH.

Chairman's Address: Surgery of Tuberculous Cavities of the Lungs.—Dr. Forest Willard of Philadelphia first thanked the members of the section for the honor they had conferred upon him in making him chairman. He had begun a series of experiments a year ago through which he had hoped to discover something new pertaining to surgery of the chest, but had met with no success. The difficulties surrounding work in that region are so great as in no way to compare with kindred procedures in the brain or abdomen. Respiration is so very potent a factor in its vital relation to success that greater skill and energy are called for on the part of the surgeon here than any where else, save in the presence of disease there is fulminating danger attending the opening of any chest. Cavities in the posterior parts of the middle and lower lobes are generally pneumococcic in origin. Various operations have been devised: (1) Compression of the lung by nitrogen or other harmless gases; (2) resection of ribs; (3) extreme cauterization externally; (4) injection of various drugs into the cavities; (5) pneumonotomy, and (6) pneumonectomy. The first, originally suggested by Murphy, has given very interesting results. The fifth has been recognized for some centuries; it was first practised in 1643. In Dr. Willard's experimental work he used chloroform or local anesthesia, resecting from the sternum back in the region of the third rib. In the absence of adhesions, these can be obtained in twenty-four hours by sutures. No irrigating should be done; all cavities must be mopped; preferably with zinc chloride. In conclusion, he said that pneumonotomy is feasible, but must be done early. In advanced cases cavities are multiple and are due to mixed infection. Success in lung surgery depends on the skilful use of the Fell-O'Dwyer or the Matas insufflator.

Surgical Treatment of Pulmonary Abscess Following Lobar Pneumonia.—Dr. F. W. McRae of Atlanta has looked over the literature most thoroughly and has found but 73 acute and chronic cases. One reason for this is that there is much difficulty in establishing a diagnosis. He gave in detail his two cases. The first, a lad of eighteen years, presented a symptom which is an unusually markedly characteristic of the condition. Every thirty days he coughed up a pint of pus within twenty-four hours. This had continued for eighteen months, until the boy was reduced to a mere rail. At the time of operation pus and blood poured out of the mouth. Recovery was rapid and in forty days was complete. The other patient was a male, fifty-seven years old, who had had an abscess for six years. He was nearly dead at the time of operation. Again there appeared the classic symptom. The man said that at such times he could be tracked from place to place by his sputum. His recovery was delayed, but is surely progressing.

Contribution to the Surgery of the Lung.—Dr. Horace J. Whitacre of Cincinnati based his observations on the history of 978 cases of tuberculosis at the Cincinnati Hospital for Contagious Diseases and on 100 autopsies. He gave a long history of the work since its inception, which dates back to the first days of aseptic surgery. He has studied the effects of compression, as suggested by Murphy, and thinks that there is probably a future for this treatment. Unfortunately, there are not yet enough cases recorded to give certain data. In excisions of portions of the lungs it is absolutely necessary for success to make an extended resection. The apical cases alone are suitable for this type of work and it is unfortunate, in view of the good prognosis, that only about 2 per cent. of all tuberculous lungs are of this type. His conclusions are as follows: (1) The majority of apical cases, which are the only ones suitable, drain better by the bronchus than by any external wound; (2) the nature of the cheesy material is by no means a favorable soil for the tubercle germs to grow upon. They, therefore, would tend to self-limitation; (3) the introduction of nitrogen gas will probably give good results in the future; (4) the highest possible percentage to be hoped for as affording suitable subjects for resection is 4 per cent.; (5) thorocoplasty is an operation of very great danger and will not be long continued.

In the discussion of these papers Dr. Smith of Hartford said that he had operated on three cases, two of which followed pneumonia. He considered the expedient a life-saving one in this type of cases. In tuberculous conditions, however, it is hopeless.

Technical Difficulties.—Dr. Mayo of Rochester spoke of the difficulty of getting sufficient space in which to operate. He said that here it was absolutely necessary to have the freest kind of drainage. Adhesions usually supposed to be characteristics of tuberculous lungs are frequently absent. He uses a wet gauze strip, which is stitched to the lung, there to remain until the time of operation, when it serves the double purpose of irritating the surface and mechanically guarding the pleural space. He said that the bands which one feels on making digital examination of these cavities should be broken only after they have been secured by artery forceps, inasmuch as the hemorrhage from them may be appalling.

Dr. Gibbons of Scranton said that he could not understand why it should be that death is said to occur so frequently as the result of operating upon the pleura. In the anthracite coal fields the miners' chests are frequently torn open, but there are very few immediate deaths from these injuries.

Dr. Oliver of Cincinnati said that although the amount of lung surgery was still small, enough had been done for one to reach a very positive conclusion, viz., that operative interference is harmful in tuberculous conditions.

Dr. McRae in closing said that he had purposely excluded, in his observations, the tuberculous lung. He cordially agreed with Dr. Mayo in his able suggestions.

Dr. Whitacre said that many cases of empyema originate in small abscesses of the pleura which break into the cavity. Adhesions are not proportionate to the involvement.

Report on a Case of Encysted Dropsy of the Peritoneum.—Dr. Miles F. Porter of Ft. Wayne said that the percentage of recovery from tuberculous peritonitis is not so high as is commonly supposed. There is no single theory to explain the strange recoveries after simple section. The mere fact that air and light are freely admitted to the cavity does not suffice to answer the question; nevertheless, they must be potent factors. The incision should be a free one and the wound should be left open for at least fifteen minutes. All deposits should be removed, but whenever possible, adhesions should be left alone. Drainage should not be established save in cases of mixed infection. He urged that the future should bring about the use of actinic and X-rays introduced within the abdomen at the time of the operation. In the discussion of this paper Dr. Ransohoff of Cincinnati said that many cases recover under medical treatment. Inasmuch as the profession is upon the threshold of great developments in the therapeutic application of the X-ray to tuberculous conditions, it is inopportune to reach any conclusions at present.

Dr. Halstead of Chicago said that air and light have little or no effect. The cure is undoubtedly due to traumatism inflicted at the time of operation. If the sacculations be multiple, there must be as many drains as sacs, and it is essential that if tuberculous tubes be found they should be removed.

Dr. Weir of New York said that speaking on the spur of the moment he felt that the general view would be that no true conception of the mode of infections in tuberculous peritonitis is at present known. There are two distinct types, one in which the fluid is free or encysted, another in which there is no fluid whatsoever. The first type is the one favorable to operation.

Dr. Ochsner of Chicago said that he had concluded from a very large series of cases that there are certain cases in which rest, hygiene, etc., give a recovery of 50 per cent. This is typically true of the acute form with ascites. The absolute indications for surgical intervention are as follows: (1) If a case under such conditions fails to improve after three months; (2) all cases of encysted fluid. In the presence of adhesions removal of tuberculous tissue is not to be made. The peritoneum has a wonderful capacity for absorbing such material. Fistulæ are usually the result of meddlesome surgery, but, if they develop, they should be left alone.

Pathological Features.—Dr. La Place of Philadelphia said that the subject should be considered from a laboratory as well as from a clinical standpoint. It is well known that the bacillus is a very frail one and dies on the slightest exposure to inimical environment. It is not the baneful germ which is generally pictured. Pure infection is distinctly benign and tends to get well of itself. For this reason, there is so great a difference between the abdominal type and that which occurs in the joints and lungs that they cannot be discussed together.

Dr. Tinker of Baltimore said that Virchow taught that cure was due to the determination of the blood to the region of operation and not to light or air.

Dr. Hall of Cincinnati said that a very large proportion of cases are due to infection from the tubes, very few coming from the appendix. He commended drainage and said that the more chronic the case the better the chance after operation.

Dr. Porter in closing said that the point he had tried to make was that cure from section arose not from one factor alone, but from a number. He in no way deprecated the assistance of the increased blood-supply, but inasmuch as Dr. La Place himself had just said that the tubercle bacillus died with the greatest ease in the laboratory under the influence of light and air, it seemed but rational to ascribe some share of potency to these factors.

Low Lateral Pharyngotomy for Approach to the Lower Portion of the Pharynx, upper Portion of the Esophagus and Posterior Surface of the Larynx.—Dr. Joseph D. Bryant of New York dwelt interestingly on the surgical anatomy of the part and the technic of his operation. He said that the lateral incision is to be chosen in these patients because of the freedom of danger to important structures. The patient upon whom he operated was singular in that he presented but few symptoms of any kind. There was a tumor in the pharynx 5½ inches from the teeth. It was soft. No external evidence denoted its presence. The patient was put in a semisitting position, a tracheotomy tube was placed in the larynx and chloroform was administered. The tumor was enucleated with the finger and proved on examination to be a fibrosarcoma weighing almost 500 grains. The literature of this subject, which had been looked up by Dr. Haubold, affords but scattering instances of this type of operation.

Dr. Dawbarn of New York said that he had been very much interested in Dr. Bryant's technic which brought vividly to his memory a somewhat similar case upon which he had operated many years ago. He wished to take occasion to remind the Section that the posterior border of the thyroid cartilage seemed very much like a foreign body to the examining finger, so much so that it had for a moment made him believe he had found the object of his search—a plate of false teeth. This can be avoided by the use of a male sound placed in the pharynx. He thought that a great deal depended upon the after-treatment of all these pharyngeal cases. It is customary with him not to give anything by mouth three weeks. Inunctions of animal fats, after massage and copious rectal feeding, will keep patients alive for an indefinite period. He does not close the external wound for a week, but obtains good union when he sutures it.

Dr. Weir of New York agreed with Dr. Dawbarn in the importance of the post-operative treatment of these cases. He packs the external cavity with a gelatinous mixture of iodoform.

Dr. Bryant in closing said that the gentlemen who wondered why he chose the lateral route might rest assured that he did so only after due deliberation. The fact that the tumor seemed attached to the deeper parts and was on the right side would in itself suggest this technic. He spoke of the great value of holding up the greater cornua of the hyoid with a tenaculum. It serves to hold the region steady for the deeper incision and enables one with ease to tie the lingual arteries. In regard to the use of the snare, either hot or cold, as had been suggested by some of the speakers, it was obviously more surgical to remove this type of malignant, broadly pedunculated tumor by enucleation rather than by any cutting process.

SECOND DAY—JUNE 11TH.

A Modified Method for the Cure of Relapsing Talipes Equinovarus.—Dr. A. S. Jonas of Omaha first spoke of the remarkable frequency of this deformity. Treated by the older methods in the presence of suitable environment, these cases almost always do well, nevertheless there is a very large class existing among the poor, for which, none of these older methods are satisfactory. This is because of the inability of these people to pay for more or less expensive retentive apparatus and also because they are

unable to follow the surgeon's directions for after-treatment with the necessary intelligence. In 1881 Phelps departed very widely from the old teaching in advocating a free incision of the soft parts and Schede laid the foundation for applying this incision to the bone as well when he presented his method of healing under a moist blood-clot. Dr. Jonas had operated by Phelps method many times in cases of persistent relapses, but he had found much annoyance from the subsequent cicatrization of the denuded area. He had tried skin-grafting without satisfactory results. He consequently had evolved a sort of shifting, plastic operation which had given him great satisfaction and which he desired to present.

The incisions are V-shaped and include all the soft parts. The incision is broadly pedunculated and at the termination of the operation, which may or may not embrace section of the neck of the astragalus or indeed its entire removal, it is swung down to cover the bared region. Subcutaneous division of the tendo Achillis is then done, and the extremity put in plaster for five weeks. If the incisions have been so free that the flap falls into position by its own weight, there need be no fear of sloughing. His conclusions were that a triangular flap in pronounced relapsing chronic cases is a very valuable addition to Phelps' technic, that the astragaloscaphoid ligament and synovial pouch should not be torn. When a simple division of the soft parts does not suffice to correct the deformity absolutely, cut the neck of the astragalus; if still insufficient, do cuneotomy, this failing, remove the bone.

Prevention of Deformity.—Dr. W. R. Townsend of New York said that so much progress had recently been made in the line of preventive medicine that it was high time similar efforts were instituted in preventive surgery. It is no exaggeration to say that more than one-half the existing deformities could have been prevented by intelligent early treatment. Very many of these are due to infantile paralysis, rheumatism, chronic joints, and burns, and if the family practitioner would appreciate that a little care on his part would obviate serious subsequent deformity, almost one-half of the work of the orthopedic surgeon would vanish. In many cases it is not the deformity itself which leads to the invalidism of the patient, but the secondary troubles which arise from the primary cause. It is without doubt true that all non-congenital cases of clubfoot are preventable. These may be divided into the simple acquired, the paralytic and the traumatic. Again, it is surprising that the general surgeon fails to learn by experience that it takes months rather than weeks for bones to grow solidly together after resection of joints. Many cases subsequently come to the orthopedist absolutely incapacitated for work from the omission, by the operating surgeon, of applying suitable support to the extremities. In the course of certain diseases it is well known that wrist and toe drops are characteristic and common. These are usually left untreated and may lead to all sorts of contractures and deformities if not given support. In closing he emphasized the fact that the general practitioner should know more of these matters.

The discussion of these papers was opened by Dr. Henry L. Taylor of New York. He said that no one who had occasion to work in the swarming clinics of a great city could fail to appreciate the fallacy of the time-honored proposition that children outgrow deformity and that there is no haste about instituting treatment. If in the thousands of cases of infantile paralysis, which, as had been said, go on to various forms of deformity, one quarter of the time which is spent upon them in the administration of electricity and other remedies might be given to the intelligent holding of the parts in their normal relations there would be much less trouble from this fruitful source. He thought that Dr. Jonas' plan to cover the bare spot, which occurs as a result of Phelps' operation, was a very ingenious and useful device.

Dr. Sherman of San Francisco had given up Phelps' method years ago, having had much better results from brisement and subcutaneous section. He thought that the back of the family physician would break, or at any rate need a brace, if any more burdens were imposed upon it, and Dr. Townsend could in truth scarcely expect that hard-worked person to do what he had asked of him. He said there were certain cases in which it was not possible to prevent by any form of splint backward displacement of the leg upon the thigh.

Dr. Steele of St. Louis, while agreeing that Jonas' operation was ingenious, had found the open technic quite unnecessary in the vast majority of cases. Brisement, plaster and manipulations suffice, in time, to effect restitution of the parts permanently and without fail. Although the profession is of course absolutely altruistic, some laymen do not appreciate it and Dr. Townsend would be criticized by them for destroying his own business. If the family doctor could be taught to do what Townsend suggested, the latter could retire from business.

Dr. Warner of Columbus said that in all open operations success depended upon the removal of all tendency of the deformity to return. This, rather than the direction of character of the incision is paramount.

Dr. Sullivan of Chicago said that it was a favorite question with mothers when to begin to correct the child's deformity. Sayre's answer to this was "after the third stage of labor." No better apparatus than the mother's or nurse's hand exists.

Dr. Thompson of Scranton said that he had never had the privilege of literally carrying out Sayre's doctrine, but that he had instituted treatment in many cases after the baby's first bath. Because of this he had been able to renounce the open operation absolutely.

Dr. Jonas in closing said that he had been slightly misunderstood; that he only meant to suggest his modification in the old relapsing cases. Inasmuch as dead spaces are always to be avoided if possible, it is wise to divide tendon and fascia diagonally rather than transversely; this is an additional reason why the open incision is better than the closed.

Gunshot Wound of Cavities.—Dr. William L. Rodman of Philadelphia spoke on the diagnosis, the prognosis and treatment of thoracic and abdominal wounds. A very interesting fact touching on the diagnosis of thoracic lesions has been elicited in the recent wars. It is that hemoptysis may frequently occur in cases of bullet injury in which the viscera are intact. Whether rightly or wrongly, this has been ascribed to the violent impact of the bullet. In any event it upsets the time-honored statement that such hemorrhage meant perforation. In most text-books gloomy statements relative to the prognosis of penetrating chest wounds are found. These need revision. For such patients recover under suitable treatment. Such treatment consists in strapping the chest, in giving opium and in leaving them alone. After strapping has been applied there is nothing so beneficial to the patient as a masterly inactivity on the part of the surgeon. He could give no more graphic presentation of his views on the question of hunting for bullets than the following little history quoted from Abernethy: "Sir Ralph Abercrombie received a bullet in his thigh. The surgeons groped and they groped and they groped and Sir Ralph Abercrombie died."

Statistical Inquiry.—It must not be forgotten that both in civil and military practice there occur many

perforating wounds of the viscera which do not enter through the abdominal walls, but pass via the pelvis or the thorax. These are naturally very difficult to diagnose. It is anomalous and extraordinary that no less than 3 per cent. of penetrating abdominal wounds are non-perforating. This is more true of the wounds which pass from the fore backward than of those having a lateral path. The prognosis of abdominal wounds is always grave, since 55 per cent. of all patients not operated upon die. Those fortunate enough to receive surgical help within the first four hours recover in 85 per cent. of cases. If the operation be delayed from 4 to 8 hours, 44 per cent. die; if 9 to 12 hours, 63 per cent. die; after 12 hours, 70 per cent. die. He wished to be placed on record not as urging operation, but early operation. Probably the reason that the patients operated on within the first four hours have such a small death-rate is that during the whole of this time the ectropin of the mucous membrane and the intestinal paresis resulting from the trauma persist for about that period of time. The danger increases in pretty direct ratio with their passing away. Aside from the actual technic there is probably no one factor which has tended so much of late to improve statistics than the free infusions which have been practised and the introduction of generous drainage. This latter, it may be wise to omit in military practice, but in the wounds met with in civil life, its omission must be considered erroneous. In the event of injury to the lesser peritoneal cavity, posterior drainage should always be instituted and it is by no means settled whether this type of drainage may not be indicated in every case of injury by the leaden bullet.

Abdominal Wounds.—Dr. McGraw of Detroit in opening the discussion said that there was a curious old legend which led many people astray even to this day. It was that bullets striking the abdomen might pass in a circuitous route from before backward and thus avoid injuring the viscera. While occasionally it may be true that a spent ball on striking the head, takes this strange course under the scalp, it is inconceivable how the soft parts can deflect the bullet. When men are under the terrific strain of battle their abdomens are continually changing in shape and it is not difficult to believe that many of them on being struck in the mid line happen at that moment to have the anterior abdominal surface in contact with the backbone. This seems a rational explanation of the cases of bullets passing through an abdomen without injuring the viscera. The treatment is immediate operation without too much regard for asepsis.

Dr. Grant of Louisville had just come from the meeting of the Army Surgeons and said that they were of one opinion, *viz.*, that successful laparotomies could not be done on the field of battle.

Dr. Roberts of Philadelphia called attention to the importance of venesection in cases of incipient pneumonia which occasionally follow bullet wounds. He took strenuous exception to the statement made by one of the speakers that shock is virtually hemorrhage.

Dr. Ochsner of Chicago said that in the treatment of the injuries of the chest, immobilization, absolute and complete, of both sides from shoulder to umbilicus was the secret of success. Add to this a let-alone policy and most patients recover.

Dr. La Place of Philadelphia said that the prognosis of injuries to the alimentary canal depended very much on whether the gut was empty or full. Immediately after the injury there is a contraction of the muscles which forces either mucous membrane or food through the wounds. In one case they are plugged; in the other the peritoneum is infected. Too much attention should not be given to the use of aseptic food, inasmuch as it is the injury to the mucous membrane, rather than the reduction of the number of bacteria upon it, which causes the fatalities.

Dr. Grant of Louisville spoke on the technic of these operations. He said that inasmuch as exploratory laparotomy can be done without serious danger, it should be practised in all suspected cases. Grossly speaking, the steps of the operation are as follows: Control the bleeding; close the perforations; do the toilet of the peritoneum. He had observed that in the event of the operator's having found an even number of holes in the gut and having discovered the bullet, the probabilities were in favor either of his having found all, or having omitted two or a multiple of two. He would always use drainage.

Dr. Gibbons of Scranton suggested that in almost every case of gunshot wound of the abdomen it is a wise procedure to place a catheter in the bladder prior to operation. If there be an immediate passage of blood, the bladder is injured. If this should occur within half an hour it denotes trauma of the ureters or kidneys.

Dr. Dawbarn of New York said that in considering the treatment of wounds of the chest, in which so-called medical hemorrhage was occurring, it would be well to bear in mind the old, but invaluable expedient of cording the extremities. Three should be so treated for fifteen minutes and then a rotation kept up for two to three hours. This is as efficacious a mode of depleting the trunk of blood as venesection, inasmuch as it is by no means difficult to cause a patient to faint by this technic, and when the clot is firmly established, the much needed blood can be liberated into the general system. He felt that few civil surgeons could be in the possession of facts which would enable them to speak with authority on the subject of abdominal bullet wounds, but he had collected from some of his former students who had served in Cuba and in the Philippines, a number of data, some of which he presented. Without exception these gentlemen were of the opinion that it is unwise to operate on the field of battle, because it is there impossible to have at hand the most necessary aids to operation—fire and water. They had made very free use of opium and believed that the "morphine splint" is often a most potent factor in averting a fatal outcome.

Dr. Rodman in closing agreed very cordially with Dr. McGraw that the soft parts cannot possible deflect a bullet. Military and civil gunshot wounds have been so absolutely differentiated by the experience of the recent wars that they must henceforth be considered under separate and distinct headings. The military bullet with its nickel casing, its high velocity, its tremendous speed of rotation, its small size and its freedom from infection gives an incised and practically sterile wound. Practically all that is taught concerning the treatment of bullet wounds pertains to the leaden, slowly-moving, dirty septic bullet of civil life.

Case of Unique Foreign Body in Stomach.—Dr. J. C. Oliver of Cincinnati presented a large bottle filled with twigs, shells and seeds, the whole mass weighing half a pound. This he had removed from the stomach of a child ten years of age who had had a gustatory frolic in a persimmon tree eight days previously. The case was interesting because of the pernicious appetite which the child had exhibited and for the absence of any subjective symptoms. Objectively, a large tumor could be felt in the epigastrium. The recovery was uneventful.

Dr. Jacobson of Syracuse reported a case somewhat similar to this in which he had removed almost a pound of hair which the child had chewed off the end of her braid. He supposed at the time that his case was

unique, but on looking it up he discovered the records of 20 similar cases. It was interesting to note that none of these children were feeble minded.

Intestinal Anastomosis.—Dr. F. G. Connell of Leadville gave the history of the efforts which have made to advance the diagnostic power of surgery in general and of intestinal perforation in particular. Following in the steps of Senn and others, he had been endeavoring in a series of experiments to find some sure way of proving the existence of intestinal perforation. He had modified Senn's original idea somewhat and injected sterile air or fluid into the peritoneal cavity and endeavored by subjecting it after removal, to various tests, to show the presence of intestinal contents. He had not as yet made any definite progress in this line.

Gall-stones in the Common Duct.—Dr. Martin B. Tinker of Baltimore said that what he wished to report was based on the Johns Hopkins statistics. They show very brilliantly that the success of operation in cases where there have been a permanent lodgment of the stone in the common duct, is far greater than that obtained by any medical treatment. The technic of the operation, however, is still under discussion. Some surgeons prefer a simple cholecystenterostomy, but this has not been done in any of their twenty-seven cases, as it is after all at best a makeshift. No doubt, however, it has a place as a preliminary operation in patients profoundly cholemic. The dislodgement of the stone is also a technic of questionable value. He agreed with Mayo that it is usually a loss of time. Crushing the stone between the thumb and finger had also not been practised at the Johns Hopkins since Dr. Halsted has long felt that Fenger's criticisms of it are very true. None of these methods can be commended, because they do not allow the surgeon to see what he is about. This is important, because in their twenty-seven cases, single stones were found in but six, and the leaving of a stone means a continuance of disability. In all ordinary cases, the operation of choice is incision of the duct with suture and drainage of the passages to the gall-bladder. This has been done on 21 patients, each one of which recovered. He emphasized that in view of this absence of mortality, the operation should in future be practised more freely and at an earlier date. Many of these cases cited have suffered for thirty years with gall-stones and it is only natural that such patients have a less bright outlook and the surgeon a harder task than those who submit themselves to operation at the earliest possible date. In the hands of good operators, these cases, although presenting much greater technical difficulties are no more dangerous than appendectomies.

Surgery of the Gall-bladder and Bile-duct.—Dr. A. H. Ferguson of Chicago said that although pathological conditions naturally give rise to some disturbance of relation, the greatest variation to be looked for in these cases is in the arterial supply. He delved into the anatomy of the parts quite extensively and laid special stress upon the fact that the smallest diameter of the common duct is at the ampulla of Vater. The spiral arrangement of the mucous membrane of the cystic duct prevents the passage of the probe, but not of air or water. He showed a rubber inflater with which he was in the habit of pumping air through the duct into the duodenum. This is a sure and rapid mode of determining their patency without doubt. Traction on the gall-bladder from adhesions cause the greatest displacement of this organ, but the downward dragging is the most pernicious, since it leads to the inspissation of the bile and consequent stone formation. The signs and symtoms of the disease are marked. There is in every case a characteristic gastro-intestinal disturbance. There is also pain. Its characteristic and sudden onset and cessation are valuable diagnostic features. The pyrexia which is present in 50 per cent. of all cases is still enigmatic. The incision for the treatment of biliary complications should be made at the outer border of the rectus and parallel to it. In performing cholecystotomy, the bladder must always be made fast to the upper angle of the wound; otherwise there is apt to develop a permanent fistula. He exhibited a number of exquisite illustrations in the course of his demonstration. Hepatotomy, the operation of Davis, is a technic which may have an important future. It is a simple incision in the lumbar region into the tissue of the liver, whereby in cases of biliary suppression the bile can be drawn away.

Technics.—Dr. Mayo in opening the discussion said that he had given much thought to the problem of exposing the area to view. Mayo Robson had suggested the use of a small pillow beneath the patient and it has been proposed by others to have an assistant lift the parts into view by traction on the liver. He preferred, however, to cut the gall-bladder quite free from that organ. He had found that the separation of adhesions to any great extent was contraindicated. All these operations should be done within an hour. He is in the habit of placing a suture on each side of the stone and uses it after the fashion of a darning-ball in a stocking. There is the utmost necessity of draining hepatic ducts because many patients die from the suppression of liver functions.

Dr. Davis of Birmingham had done 200 experimental operations on the livers and ducts of dogs. He had found it very difficult to execute the technic of choledochorrhaphy, and inasmuch as it does not seem necessary in the human being, he gladly omits it. In every case in which the gall-bladder is removed the cystic duct must be removed also. Hepatotomy was first done by him in a case of liver abscess, and it worked so well that he has conceived of its being valuable in cases of pronounced cholemia.

Dr. Moore of Minneapolis said that local tenderness over the gall-bladder is always a help in diagnosis and is always present. This, combined with abrupt pain, often waking the patient from sound slumber, should cause one at least to think of gall-stones.

Dr. Abbe of New York said that the papers had been of great interest. They had presented for discussion, two very important points, *viz.*, the suturing of the duct and the success of the operation. The first was a procedure attended with the utmost difficulty and lay quite without the bounds of the average surgeon's capabilities. He had given it up some time since and was now quite content to leave the incision to be cared for by the law of stenosis which closes any aperture without peradventure. A small drain from the site of the opening to the surface kept in position for a week by a catgut ligature was all sufficient for safety. He congratulated Dr. Tinker on the magnificent results which he was able to report.

Dr. Weir of New York has also found great difficulty in suturing the duct and now allows it to remain open. He invariably employs drainage and obtains by this technic admirable results. If he has been unable prior to operation to determine the character of the stools, whether they be clay-colored or not, he employs the trick of dropping into the gall-bladder a little pellet of methylene blue which can be anxiously hunted for after the operation.

Dr. Tinker in closing said that although the general voice of the Section was upraised against him, he was still of the opinion that the technic employed at Hopkins was based on surgical truth. It was well known that the bladder and ducts were infected at all times, and the suture was therefore a valuable preventive step.

The operation was rarely of the emergency type and should therefore be referred to a man who could do ideal surgery.

Dr. Ferguson said that he firmly believed the position in which the gall-bladder was placed in the wound was of great importance and had a definite relation to the establishment of permanent fistula. He would drain every bladder rather than remove it, as it drains the liver better than any artificial tubing. He had not sutured the common bile-duct and believed that if infected tissues were approximated they would not hold together.

The Surgical Aspects of Pancreatitis.—Dr. William J. Mayo, of Rochester, Minn., said that the anatomical relationship existing between the biliary and pancreatic ducts causes gall-stone disease to be the most important etiological factor in the production of pancreatitis. The form which the disease takes depends on the extent of the chemical or bacterial invasion of the ducts. The acute form is usually attended by hemorrhages into or about the pancreas, and fat necrosis, involving the omentum, retroperitoneal and mesenteric tissues by preference, and may result in abscess if death does not supervene. The symptoms are those of a most serious lesion involving the upper abdominal zone with repeated attacks of collapse, nausea, vomiting, etc. The chronic form is usually in the nature of an interstitial pancreatitis with enlargement of the organ and jaundice is the most prominent feature. The treatment of the acute form is to sustain life and later drain such accumulations as take place. The treatment of the chronic form is by means of cholecystostomy, in this way draining the ducts. The knowledge of the various forms of the disease has been so largely gained from the dead-house that it is probable that many of the milder cases may have recovered spontaneously, unrecognized.

Dr. Munro of Boston said that although great efforts have been made to discover some reliable laboratory tests for the acute form of pancreatitis, none have as yet been evolved. Diagnosis must rest upon clinical features which are at best very vague.

Appendicitis; a Critical Review of 416 Cases.—Dr. John B. Deaver and Dr. Geo. G. Ross presented this paper. Dr. Deaver said that of the total number 279 had been acute cases. In these he had a mortality of 15 per cent. The whole trend of his magnetic discourse was strongly in the direction of early operation. He said that the surgeon was very rarely given a fair show to operate early. He, rather than the family practitioner, should be the one to decide what symptoms call for surgical help. When the people at large are crying out as a whole for surgical intervention in this dread disease, is it not time that the paretic general practitioner be aroused to a sense of his responsibilities. The ice-bag is fully as bad as opium, in that it masks valuable diagnostic symptoms and does no good. The awful uncertainty which hangs about every case of appendicitis should no longer exist if every case were operated on the moment it is seen. He took strenuous exceptions to the general belief that amelioration of symptoms contraindicates operation. All the miserable sequellæ so potent for evil and so dreaded by all can be avoided by early action.

Nine Fatal Cases of Appendicitis.—Dr. Parker Syms of New York said that the cause of death in these patients had been as follows: Five had perished from rupture of gangrenous appendicitis, no adhesions being present; three had been lost through perforation in the presence of incomplete adhesions; one had died from circumscribed abscess. Death in every case is due to delay. There was no patient upon whom one might not at a certain time have operated successfully. He gave in detail his rules governing appendicular treatment. They divide themselves into the palliative treatment which comprises rest, milk, laxatives and no drugs and into the technic for the interval and acute cases with abscess and general peritonitis. One important point which he brought out was his mode of removing the pus from an abscess. He pricks the wall and absorbs it on a sponge drop by drop. He would often make no attempt to remove the appendix in cases of abscess.

Some Anomalies in Appendicitis.—Dr. Ernest La Place of Philadelphia said that the diagnosis depended first on the location of the appendix. This, as is well known, is capable of extraordinary variations. Second on the extent and position of the pain, third upon the fact that infection is never uniform. Foreign body in the appendix is never the cause of an attack. It is well known that organisms vary constantly in their virulence, and this fact alone explains the endless varieties of the disease. What occult power causes a development of these virulent toxins, no one can say, but that they exist within the lumen of the closed organ and that they possess the corrosive strength of nitric acid, no one doubts. This accounts for the gangrenous type and the toxins are usually of streptococcic production. The colon bacillus gives rise to the less virulent forms. The obliterating type of the disease results as a rule from chronic low forms of irritation which destroy the mucous membrane and cause adhesions at the appendicular orifice. An axiom with which every one should be familiar is that at no time can any human being be sure of the extent of the disease except after operation. Hence, every case should be operated upon at the earliest possible moment.

Dr. Weir of New York in discussing these papers said that he wished to speak of the appendix. He had discovered a new and unique use for the much-abused organ. Recently it had been proposed to perform right colostomy in order to irrigate the colon in certain cases of persistent ulceration. When he was doing one of these operations, the appendix popped into view so invitingly that the happy idea of marsupializing it in the right inguen occurred to him. He sewed it to the abdominal wall, passed a tube into it and injected antiseptics through it. The colitis in this case is cured and he will on his return to New York introduce a cautery into the opening of the appendix which will destroy its mucous membrane, ablate the organ and close the fistula. Turning to appendicitis he said that he agreed with Deaver. He had only reached this conclusion in the past year or more, but he has now reached it for all time. Every case seen must be operated on at once.

Dr. Abbe of New York said that the last chapter in the treatment of appendicitis was evidently not yet settled. He had prepared a number of specimens by distention, fixation and longitudinal section. Without exception all show the presence of a stricture and in 10 per cent. there are concretions. These are not the so-called enterolyths, but consist of exfoliated epithelial cells from the appendicular mucous membrane. The first attack of clinical appendicitis really marks the end of the appendicular disease.

Dr. Gibbons of Scranton said that nervous dyspepsia, colitis and many other conditions are to this day too often confused with appendicitis.

Dr. Ochsner of Chicago said that he had learned more from Deaver than from any other man and that the profession and the world owed him a debt which could never be repaid. When he learned that Dr. Deaver was to speak upon this subject, he gathered from his own hospital statistics of mortality from a similar number of cases as Dr. Deaver had based his report upon. His mortality is somewhat less than 4 per cent. What is

it that makes it less than one-third that of the past master Deaver? Nothing, in his mind, except the fact that all his cases were subjected to a treatment which absolutely prevent peristalsis, *viz.*, lavage of the stomach and absolute absence of food and cathartics.

Dr. Murphy of Chicago said that the problem of when to operate in appendicitis is rapidly nearing solution. Practically all the members of the section were agreed that it must be within thirty-six hours. When the general profession shall become educated to this, mortality will be reduced to less than ½ per cent.

Dr. Mayo of Rochester, Minn., wished to be put on record as emphasizing the importance of early operation. This conclusion had not come to him until two or three years ago. He thought that Ochsner's treatment had been instrumental in causing a drop in his mortality from 14 to 4 per cent.

Dr. Deaver in closing thanked the section for the very generous and cordial expressions of commendation. He said that it was difficult for him to explain the difference of his mortality and Dr. Ochsner's except by supposing that they did not have a similar class of cases. The variety of patients which made up the bulk of his death rate were those fellows who came into the hospital with an abscess as big as a baby's head or who were in the profoundest condition of shock from perforation. He believed that no amount of stomach washing or deprivation of food could prevent a fatal outcome in these cases.

(To be continued.)

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY—JUNE 10TH.

The Section was called to order by Dr. Frank A. Jones of Memphis, Tenn., who then read the president's address.

Preliminary Education.—The question of requiring a degree before according permission to enter a medical school is sure to be a source of confusion and does not solve the problem of proper requirements. Shall the degree required be that of A.B. or B.S.? Considering that the candidate is to devote his life to the study of medical science it would seem more suitable to require the degree of B.S. rather than A.B. Entirely too much stress is placed, according to Dr. Jones, on the value of classical or linguistic training for the develment of the mind. The result is that many who have a smattering of Latin and some French or German may not know how to write a decent English sentence. If English training were more insisted on it would in the end be better than the incomplete classical training now given. The requirement should not be for six or seven years of preliminary college work, but for four years of serious high-school training.

Reciprocity of Medical Examining Boards.—Dr. Jones said that the establishment of a national examining board demanded by so many may prove a source of serious danger. The interest at present taken in State medicine and the keeping up of a good standard of medical practice may well degenerate if authority be taken from the local State authorities and centralized at the Capital. What is needed is rather reciprocity of the present State examining boards preserving their idenity and their present influence for the medical profession, yet facilitating interstate practice. This will solve the present difficulties, yet without endangering the benefits of the situation as it has worked itself out up to the present time.

Amebic Dysentery in Michigan.—Dr. George Dock of Ann Arbor, Mich., reported a case of amebic dysentery occurring in a man who had not been out of his home county in Michigan for nine years. The patient was a farmer aged thirty years who had suffered for many weeks with dysenteric symptoms before he came for treatment to the hospital at Ann Arbor. The water the man had taken came from a well about 100 feet away from the barn and there seemed no good reason to suspect any contamination from that source. He began to suffer in August of last year. At first there were griping pains. These were followed by watery discharges and then by tenesmus. He averaged from six to twelve stools a day and sometimes had as many as twenty. He was not free from these watery discharges for more than a day or two in over six weeks and had lost some fifteen pounds in weight.

Condition on Admission.—When admitted to the hospital an examination of the patient's rectum showed some proctitis and the speculum brought away some reddish mucus so typical of amebic diarrhea that Dr. Dock at once suggested the possibility of its presence. The case had come in with the diagnosis simple dysentery. On microscopical examination an abundance of Charcot-Leyden crystals and many active amebæ. For three weeks his condition remained about the same. Once when there was a day without frequent discharges a good dose of Carlsbad salts was given and many active amebæ came away—more than Dr. Dock had ever seen before. There were also a number of eosinophile cells in the stools and 10 per cent. of the white blood-cells were of this type.

Amebic Dysentery in the United States.—In 1891 Dr. Dock described some cases of amebic dysentery seen in Texas. The amebæ seen in this case were of the same type as those seen farther south. Their diameter when at rest in the spherical form was from 20 to 35 micra. Very few were less than 20 micra, only one more than 35 and that only 38 micra in diameter. The blood-serum of this patient was tried to see if the agglutinating property for Flexner's and Chiga's bacillus were present, but it could not be demonstrated. Cultures taken with the greatest care failed to show any growth of this bacillus. This is the first case seen in Michigan, but it is probable that careful search will show many others. A number of cases of dysentery are reported to the board of health of Michigan, but most of these, as Dr. Dock has seen them, are either chronic diarrhea from gastro-intestinal disturbance or are the terminal diarrhea of pernicious anemia.

Amebic Dysentery in Northern Cities.—Dr. Dock said that since Karteli's classic study of amebic dysentery the disease has attracted great attention. It was generally concluded that amebic dysentery was confined to the tropics. It must not be forgotten that the first case of it was described in St. Petersburg. In this country the disease has now been seen in Baltimore, in Philadelphia, in Boston, in New York, and in parts of Texas. It seems evident then that the disease may exist almost anywhere in the country, or probably in the world. It has not been found because not looked for with sufficient care.

Etiological Role of Amebæ.—It has sometimes been said that the presence of the ameba coli was only a coincidence and that the parasite was not etiologically connected with the dysentery. The pathological picture presented by amebic dysentery is too distinct for this to be true. Some authorities have insisted that the ameba was a more or less normal parasite of the intestinal tract. Schubert maintained that he found the ameba coli in the stools of more than one-half of the stools of normal individuals to whom Carlsbad salts had been administered. Dr. Dock has examined the stools of over 200 patients to whom Carlsbad salts had been given but did not find true amebæ. Certain cells that simulate amebæ were found, but they had true ameboid movements and contained no cellular material.

Nomenclature Meddling.—There are many seeming contradictions and there is much confusion in the literature of amebic dysentery. This has been introduced by the desire of every man who studies the question to give new names. These names are given without any zoological reasons. Not new theories of origin nor new names are needed, but more observations. It is clear that there are many cases of amebic dysentery in this country and the disease is very widely distributed. These must be carefully sought for in order to learn the geographical limits of its extension and aid in prognosis. Amebic dysentery is always extremely obstinate to treatment and the discovery of amebæ in the stools is enough to make the physician refrain from any encouragement as to relief of symptoms.

Amebic Dysentery Traveling Northward.—Dr. Mac Rae of Baltimore said that when the first case of amebic dysentery was found in Johns Hopkins, very careful inquiries were made as to the patient's possible connection with things tropical. Now, however, that many cases have been seen there is no question that the disease may occur in those who have never been outside of Baltimore. The disease has been observed especially in children and others who have taken gutter-water or who have had their hands covered with material from the gutters when eating. It would seem then that the frequent amebæ seen in such water have some connection with the pathogenic amebæ.

Tropical Liver Abscess in New York.—Dr. Libmann of New York City said that he had seen at least ten cases of amebic liver abscess at Mount Sinai Hospital in New York, and in most of these the patient had never been out of the city. As the form of ameba that causes liver abscess is also concerned in the production of dysentery it would seem that this parasite may invade the system without any residence in the tropics being necessary.

Amebic Dysentery in New York.—Dr. James J. Walsh of New York City said that at least two cases of true amebic dysentery have been under observation in New York during the past year. In neither case had the patient been out of the city for many years. The disease would seem therefore to have crept as far north in its endemicity as New York.

Amebæ as Albuminous Products.—Dr. Elmer Lee of New York City said that amebæ are undoubtedly the result of imperfect digestion of albuminous material. Under such disease conditions the undigested substances agglomerate in the blood-stream and give the ameboid appearances. The white blood-corpuscles are undoubtedly the products of similar processes. The blood that enters the spleen has not many such agglomerated masses, but the network of splenic tissue undoubtedly causes them to form, for they are found in great abundance in the blood issuing from the organ. These appearances have led to the formation of many hypotheses, but they are evidently due to faults of digestion and can be very clearly traced to these.

Biology of Amebæ and White Blood-cells.—Dr. Thos. Futcher of Baltimore said that it would be unfortunate to leave any such assertion as that of Dr. Lee to pass without contradiction. Amebæ and white blood-cells are living cells and not mere agglomerations of albuminous material. Any one who has seen the active ameboid movements of these cells could ever doubt of their intense and independent vitality. Their capacity for the ingestion of other cells and foreign material is also a proof of such vitality. To see them actively engaged in phagocytosis is to dismiss all question of the possibility of their being broken-down albuminous products.

In closing the discussion Dr. Dock said that he had been very careful to exclude any possible source of infection from Cuba or the Philippines. In recent years there have been not a few exclusively tropical diseases seen in Michigan as the result of the campaigning in the tropics. Amebic dysentery then seems to have a home in Michigan and very probably also in many other northern States.

Origin of Vesicular Murmur.—Dr. C. F. Hoover of Cleveland said that Laennec had attributed the origin of the vesicular respiratory sound to the friction of the air in the small tubes and its entrance into the infundibulum. This explanation had been disputed. Certain Germans have maintained on theoretical grounds that the vesicular breath sounds are no other than the sounds of the air passing through the smaller bronchi as modified by the intervening lung tissue. Penzoldt attempted to demonstrate this view by covering the human trachea with the inflated lung of a sheep when the tracheal breath sounds beckon, according to him, the character of the vesicular murmur. Dr. Hoover has repeated this experiment, however, and finds nothing in it to confirm Penzoldt's statements. The vesicular and bronchial sounds are evidently of different origin.

Illustrative Case.—Dr. Hoover has recently had a case in a very old man in whom there was very severe spasm of the glottis. With this spasm intense inspiratory efforts occurred. This led to some rarefaction of the air within the lungs and also to some movement of the air toward the periphery of the lung. During this movement the normal vesicular murmur could be heard, though there was no bronchial or tracheal breathing. Dr. Hoover has been able to confirm this observation upon other persons. If a normal individual be asked to close his glottis and then make inspiratory movements this same murmur, although much weaker, can be heard. With the intense inspiratory efforts made in the pathological condition these sounds were easy to hear and seem to demonstrate that the origin of these vesicular inspiratory sounds is a combination of movement of air in the smaller bronchoes and of the movements of the lung tissues themselves in the infundibular areas.

Dr. Quimby of New York City said that the expiration of bronchial breathing is sometimes spoken of as high pitched. As a matter of fact it is really lower pitched than usual.

Blood Poverty and Gastric Ulcer.—Dr. Robert N. Willson of Philadelphia said that the subject of gastric ulcer is one of those most threshed over in medicine. Only one thing in etiology is agreed upon: that anemic conditions and especially chlorosis form the basic predispostion to the affection. Gastric ulcer is much more frequent than has been thought. Five per cent. of all hospital cases suffer from the disease. In ordinary life gastric ulcer may not be so frequent, but there is no doubt that many apparently healthy persons or sufferers from obscure stomach symptoms are really carrying around latent gastric ulcers.

Position of Ulcers.—Gastric ulcers usually occur on the posterior wall near the greater curvature. Mayo Robson said not long ago that latent ulcers occurred especially on the anterior wall and near the lesser curvature. Here they do not readily come in contact with the food. Latent ulcers are, however, quite common. Ulcers on the anterior surface near the lesser curvature are found very rarely at autopsy. Ulcers may be multiple. Even five or six may be exceptionally present. In Virchow's famous case, so often quoted, there were thirty-four. Most multiple ulcers are near the pylorus, some with contiguous edges, yet all having the characteristic punched out appearance that distinguishes the peptic ulcer from all other stomach lesions.

Causes of Ulcers.—Some are due to thrombosis,

some to embolism, but these causes are rare compared with the frequency of gastric ulcer. In addition emboli occur at the cardiac end of the stomach. Traumata and tight belts and corsets may be mentioned, but these surely are not sufficient to account for the number of cases that occur. Poverty and intemperance are the main causes. It is evident, that, as a rule, a combination of factors must occur to produce the ulcer.

Treatment of Gastric Ulcer with Iron.—Dr. Willson pointed out that since the underlying condition in gastric ulcer is always poverty of blood the treatment by means of iron should not be so condemned. Albuminate of iron has been used with good results. Dr. Willson detailed the case of a physician's wife who suffered from a painful condition of gastric ulcer, but never had hemorrhage. The absence of hematemesis is not so rare. Boas saw ten cases without this symptom. In 700 reported autopsies nearly 5 per cent. had ulcer, yet had never vomited blood. Dr. Willson's patient improved at once when her anemic condition was relieved and has had no relapse of symptoms.

Gastric Ulcer and Stomach Motility.—Dr. Fenton B. Turck of Chicago said that besides blood defects as the underlying condition and more important than secretory anomalies disturbances of motility must be considered. The other important factor is interference with splanchnic circulation. Dr. Turck has kept animals in very small cages in which they scarcely had room to turn around. Under these circumstances they lost weight and in at least two of the survivors ulcers resembling the ordinary peptic ulcers were discovered.

Dr. J. J. Walsh of New York said that trauma in anemic cases seems to form the direct causative element of the gastric ulcer. In cooks the traumatic cause is hot food; in seamstresses, the vibration of a sewing machine against which they lean; in typewriters the machine, in clerks the desks against which they lean. Dr. Walsh has seen two cases of gastric ulcer in men. One was a shoemaker who cut sole-leather while the piece was pressed against his stomach. In the other, a carpenter, the man leaned against a chisel while smoothing boards. Old corsets seem to act in this same way. Dr. Favil of Chicago said that the lack of hemoglobin is the always present element in causation. Feeding *per rectum* is then an unsatisfactory form of treatment, and the first thing should be the correction of the anemia. Iron is then not contraindicated, as used to be said, but should be used judiciously.

(To be continued.)

SECTION ON OBSTETRICS AND GYNECOLOGY.

FIRST DAY—JUNE 10TH.

The Address of the Chairman.—Dr. J. H. Carstens of Detroit dealt with the future of gynecology. The obstetrical part of program is short, as the questions of that branch are practically settled. Nature needs no help in the majority of cases and the dangers of a physiological confinement are now practically *nil*, hospitals reporting large series of cases, in one instance reaching 1900, without a death. Gynecological discussions of the past on leeches, tampons, iodine, specula, etc., have given place to papers on the mechanics of the surgery of the pelvis, the removal of tumors and the uterus and tubes, conservative surgery of the uterus is fortunately now in vogue. But the general practitioner attends labor cases and the general surgeon is claiming the operations of gynecology; hence it might seem that a few years more would see the end of this section. However, other questions than those of mere operating demand attention. The increasing sterility of American women demands attention. Some of the causes of the decrease in birth-rate were enumerated. Numerous young married women use every means to prevent conception for a time and thus destroy the power which they would fain possess, at a later period. Mothers aid their daughters in this practice. Physicians must see that a higher standard of womanhood is inculcated. The educational methods of to-day are another cause of sterile and invalid women. The child is urged to the limit of ambition in mental acquirements. Insufficient sleep, lack of exercise, and over-study result in a partially educated mind and a wrecked body, neurasthenia and hysteria follow. Young men of vigorous constitution marry these educated, probably passionless, women and trouble ensues. The outcome is often infidelity, contraction of disease and transmission of it to the wife, with the result that the gynecologist's services are required. This great problem of future education must be solved.

Prostitution.—Prostitution must be controlled, legally if in no other way. Moral conditions must be understood by the physician and then taught to the public. Young women are driven to the unhealthy occupations of clerks, stenographers, etc., by averseness to marry any but rich men. This idea must be dispelled. A pernicious practice to be stopped is that of suggestion to girls regarding menstruation. Women ask them regarding irregularities, or even the lack of them, until a morbid condition is aroused and real or fancied trivialities are multiplied with disastrous results. Right living, physiology, exercise, etc., are needed by women. The future gynecologist must live closer to his patients, he must enforce the idea of a sound body; he must make people understand that not every girl was born to get a higher education, whatever her powers may be. He must study the condition of the individual and be a guide to the race.

The Best Method of Surgical Treatment of Complicated, but Aseptic Retroversion of the Uterus in Fruitful Women.—A. Goldspohn of Chicago advocated the Alexander operation, although this procedure has been changed until now that name is really a misnomer. He reported 80 cases, 11 being his own, operated upon by this method and examined, by various operators after a subsequent labor. There were only 2 recurrences and in each of these there were complications to account for the condition. This "double test of pregnancy" is the severest test and the Alexander operation is the only one that successfully stands it. None of the methods of suspending the uterus by the formation of artificial ligaments should be used in women who may conceive. The only proper question for discussion is how to use the round ligaments to obtain the most ideal result. Considering the fact that retroversion never caused death and that surgical is not the only, although the best, treatment, any operation should be as slight as possible, not dangerous, and should yield permanent results. These requisites are furnished by the method advocated. Any method except that through the abdominal canal from without reduplicates the strong median portion of the ligament. The Alexander operation eliminates the weak distal end of the ligament, thus securing anatomically correct shortening. If conditions within the pelvis, all inflammation being past, demand interference, the inguinal canal and internal abdominal ring will admit the passage of a finger, without additional cutting, for the purpose of freeing adhesions or delivering the adnexæ for reconstructive treatment or partial removal. This has been done in over 200 cases. The operation is without mortality, it does not invite hernia; its results favor conception and do not interfere with pregnancy or labor, and, as before stated, the recurrence of retroversion is less than after any other operation.

Surgical Treatment of the Uterosacral Ligaments Through the Vagina in Retroversion of the Uterus.—J. Wesley Bovée of Washington is inclined to believe that retroversion *per se* is a condition requiring operation, although that question is not yet settled. The treatment advocated is not original with him, other operators working on the same line more than fifty years ago. Brief reference was made to the parts played by the various ligaments in uterine support. The round ligament has a very small part, its main function being to pull the uterus forward after the emptying of the bladder. The location in which the cervix perforates the pelvic diaphragm, anterior or posterior, has much to do with displacements of the uterus. The anatomy of the parts, especially of the utero-sacral ligaments, was briefly explained. These ligaments have a marked influence in retaining the cervix within the hollow of the sacrum and when this condition obtains there is no retroversion of the uterus. Hence the operation recommended—shortening of the utero-sacral ligaments to correct retroversion. This is best accomplished through the vagina, the peritoneum being opened or not owing to the exigencies of the case. If there are pelvic adhesions, the cul-de-sac is entered. Suture material is an important item in this operation, Bovée preferring kangaroo tendon which will last for several weeks. When the peritoneum is not incised the danger is slight. Of 91 cases reported nearly all were successful, there being no failure in the 8 operated on by the author.

In the discussion Dr. G. Kolischer of Chicago raised the point of danger from operating so near the peritoneum without opening it, the knife or needle being apt to penetrate the intestine.

Dr. J. Riddle Goffe of New York said that everyone should now come to the conclusion that ligaments are the support of the uterus. Ventrosuspension is not favored, because the artificial band has no muscle tissue and does not increase in size and involute. The round ligaments do not support the uterus, but act more like guy ropes to retain it in place. The true support is the tissue made up of the uterosacral and uterovesical ligaments and they should be used to correct the position of the uterus. He has operated upon the uterosacral ligaments in three cases, at the same time shortening the round ligaments through the vagina. Satisfactory results, even after pregnancy, were secured in each case. Silk was used for sutures, the peritoneum being opened in each case.

Dr. A. Palmer Dudley of New York considers retrodisplacement a direct cause of pelvic disease, including extra-uterine pregnancy. In his experience ventrosuspension has proven a safe and satisfactory operation. It does not interfere with the dynamics of the pelvis. A perfect ligament can be formed out of the peritoneum when the uterus is suspended and it does not interfere with pregnancy. He has long since abandoned the Alexander operation. It is useful only in patients who have no adhesions; in the great majority of cases old enough to produce symptoms adhesions are present.

Dr. J. H. Carstens spoke of two conditions which modify the operations needed, one is that of general ptosis of abdominal viscera pushing down the uterus, the other being lacerations, etc., affecting it from below.

Dr. Goldspohn refuted the statement that the round ligament operation was applicable only to simple cases. Adhesions can be detached by the method he uses the same as by the abdominal incision.

Dr. J. W. Bovée has no fear of wounding the intestines during operation and would not open the peritoneum unless internal conditions demanded.

Electrothermic Hemostasis.—Dr. A. J. Downes of Philadelphia reported a series of cases operated upon by this method during the past year, thus supplementing his previous paper on the subject. The cases included 4 ovariotomies, 20 of salpingectomy, 42 appendectomies, 5 removals of hemorrhoids. Of the hysterectomies 5 were vaginal, and all were practically bloodless. Many of the pelvic cases were suppurative, but the abdomen was closed without drainage. This was also done in cases of suppurative appendicitis, in at least 2 of which the appendix was perforated. No sepsis followed. Strong claims were made for the use of this method in operations for uterine cancer, salpingitis and extra-uterine pregnancy, its ideal use being in the sterile occlusion of the appendicular canal. Less pain follows abdominal operations by this method and fewer adhesions are formed. Improved instruments were exhibited.

An Operation for the Cure of Rectovaginal Fistula.—Dr. A. Palmer Dudley of New York supposed the operation to be original with him until later a description of the same method by Segond of Paris, was found. The latter's description of the operation was read. The operation is practically that of Whitehead for hemorrhoids, the wall of the rectum being well separated from the vagina. When the mucous membrane is pulled down after resection, the opening in the rectum is disposed of and that in the vagina is easily closed. Dudley, in cases of high fistula, does not resect the mucous membrane entirely to the fistula, but far enough only to permit of sliding the opening on to healthy tissue. Very satisfactory results were secured in 2 cases.

(To be continued.)

GENERAL SESSION.

THIRD DAY—JUNE 12TH.

The following named gentlemen were nominated and elected officers of the association to serve for one year: Frank Billings, M.D., of Chicago, President; W. A. Witherspoon, M.D., of Chicago; G. F. Comstock, M.D., of Saratoga; C. R. Holmes, M.D., of Cincinnati, Vice-Presidents; George A. Simmons, M.D., of Chicago, Secretary; H. P. Newman, M.D., of Chicago, Treasurer; E. E. Montgomery, M.D., C. L. Johnson, M.D., A. R. Wright, M.D., Trustees; and Drs. C. P. Marvil, G. Cook, N. S. Davis, Jr., T. C. Martin, J. B. Roberts, F. H. Wiggin and S. Paton, members of the Council.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE STUDY OF THE PULSE, ARTERIAL, VENOUS AND HEPATIC, AND OF THE MOVEMENTS OF THE HEART. By Dr. James Mackenzie. 8vo, 321 pages. Illustrated. The Macmillan Company, New York.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Vol. V. Obstetrics. Edited by Drs. R. Peterson and H. F. Lewis. 12mo, 233 pages. Illustrated. The Year-Book Publishers, Chicago.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY. By Dr. Francis H. Williams. Second Edition. 8vo, 704 pages. Illustrated. The Macmillan Company, New York.

INTERNATIONAL CLINICS. Twelfth Series. Vol. I, 1902. Edited by Dr. Henry W. Cattell. 8vo, 306 pages. Illustrated, J. B. Lippincott Company, Philadelphia.

THE PRINCIPLES OF BACTERIOLOGY. By Dr. A. C. Abbott. Sixth Edition. 8vo, 641 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.